

THOMAS
ROBERTSON
& COMPANY, LIMITED
MONTREAL & QUEBEC

CATALOGUE

G

PIPE AND FITTINGS,
VALVES, PLUMBING &
HEATING SPECIALTIES,
MILL SUPPLIES, ETC.

TH

IN

Established in Montreal in 1852

THOMAS ROBERTSON

& COMPANY, LIMITED

HEAD OFFICE
MONTREAL



BRANCH
QUEBEC

INDUSTRIAL ENGINEERS' and STEAMFITTERS'
CATALOGUE "G"

Offices and Showrooms

HEAD OFFICE, 262 Craig Street West, MONTREAL

BRANCH, 148 St. Vallier Street, QUEBEC

Factory & Stores

n, Colborne and Dalhousie Streets

MONTREAL

ЛНОВЪ БОГДАНОВЪ

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THOMAS ROBERTSON & COMPANY, LIMITED

TRADE CUSTOMS AND SALE CONDITIONS



All Quotations and List Prices are subject to change without notice.

Designs of Articles are not guaranteed as to details, as modifications and improvements are made as found necessary.

All Contracts are subject to Strikes, Accidents, or other causes beyond our control.

We guarantee our goods only to the extent of replacing those showing defects of workmanship or material, when used for the purposes for which they are intended, and providing that we are immediately notified. No charges for labor or expenses to replace defective goods or occasioned by them, will be allowed. If any goods prove defective the measure of damages is the price of the defective goods only.

No goods are to be returned without first obtaining our consent, and we require to know the date of our invoice.

All goods are carefully checked and re-checked and packed by experienced men. Every care is taken to ensure against breakage or loss in transit. Therefore our responsibility ceases when goods are delivered to the Transportation Co. and we obtain their receipt therefor in the shape of a clean Bill of Lading. Transportation Companies are responsible for goods damaged, broken, or lost in transit, and all claims arising therefrom must be made by the purchaser against the Transportation Company.

We use every effort to avoid mistakes. Should any occur we request our customers to report same promptly, and we will endeavor to adjust the matter speedily and satisfactorily.

We Solicit Your Orders

THOMAS ROBERTSON & COMPANY, LIMITED

Telephone HARBOUR 5171

262, Craig Street, W.

Montreal, Canada

Branch Office & Warehouse, 148 St. Vallier St., Quebec

Structural Steel

Channels



Fig. G-1

Angles — Equal Legs



Fig. G-3

Angles — Unequal Legs



Fig. G-4

I - Beams

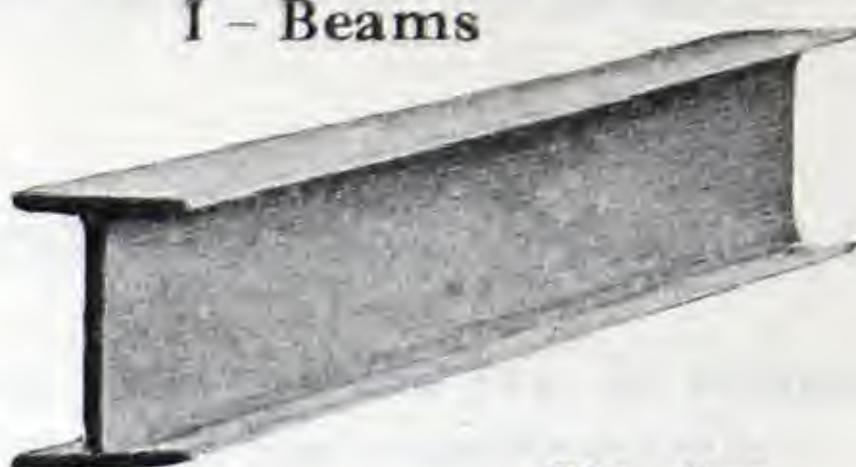


Fig. G-2

Z - Bars



Fig. G-5

Tees

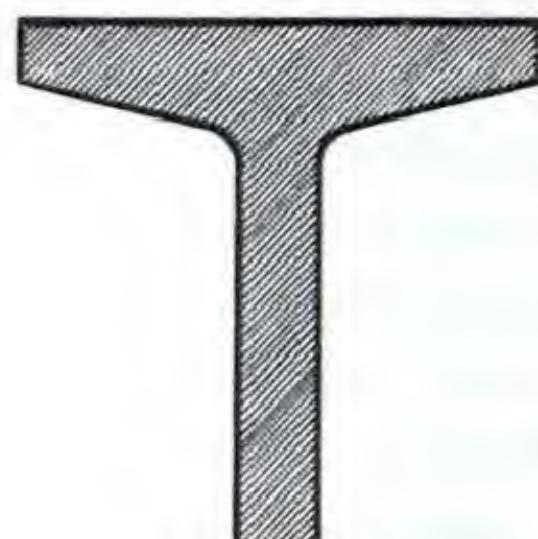


Fig. G-6

H - Beams

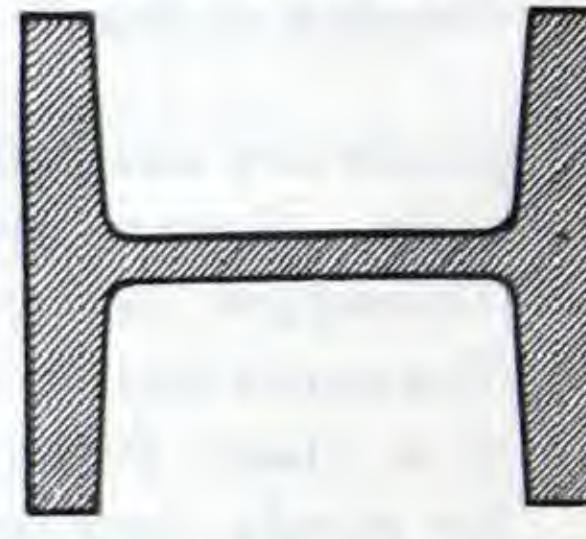


Fig. G-7

Iron and Steel Bars

Square

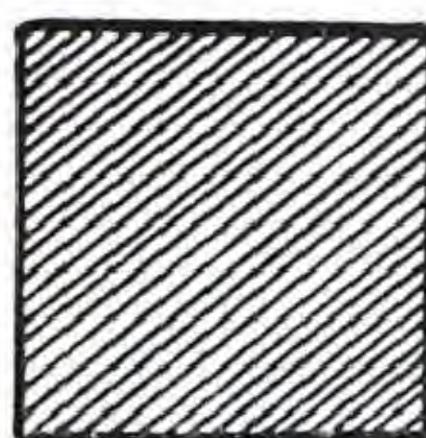


Fig. G-8

Round



Fig. G-9

Half Round



Fig. G-10.

Hexagon

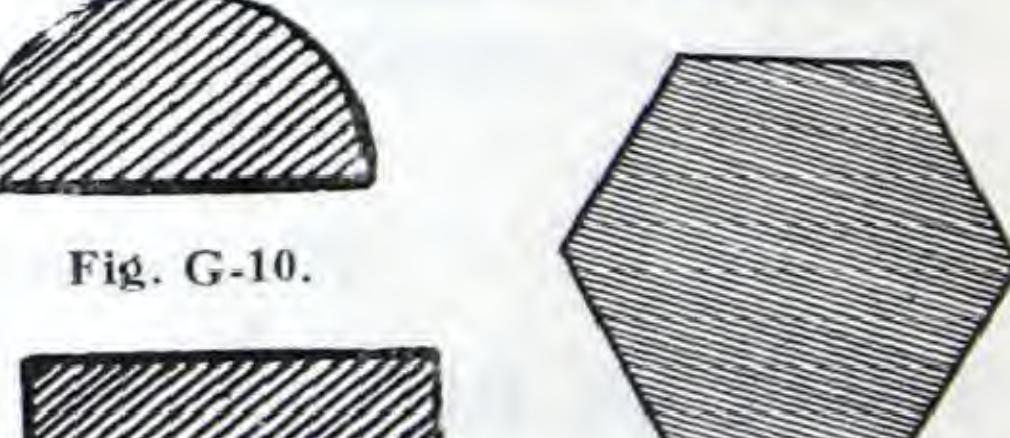


Fig. G-12

Flat - Fig. G-11



Prices for Stock sizes, or other sizes, or special shapes, furnished on request.

Steel Shafting

Cold drawn, Rolled, Turned and Polished

Round

$\frac{1}{8}$ " to 6" Diameter

Square

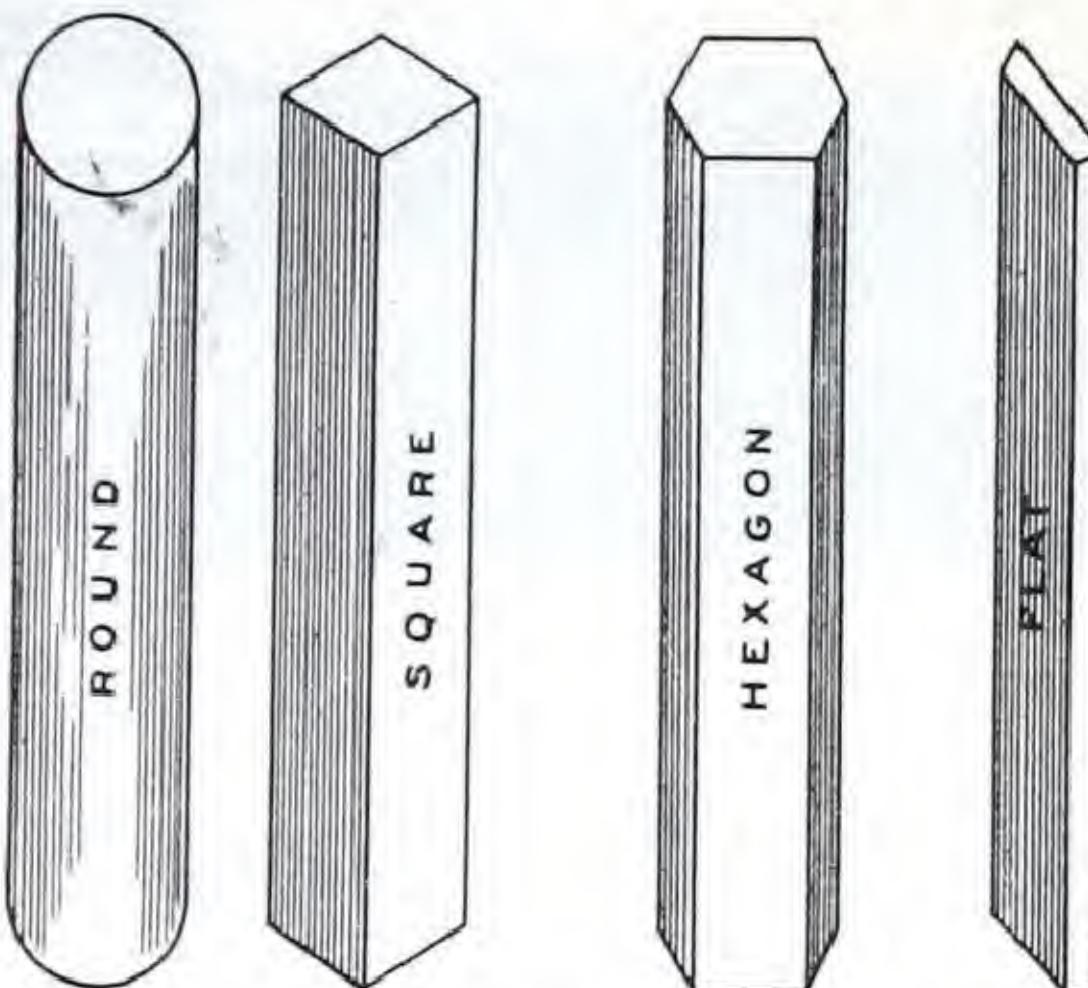
$\frac{1}{4}$ " to 3" Sides

Hexagon

$\frac{1}{4}$ " to $2\frac{1}{4}$ " Diameter

Flat

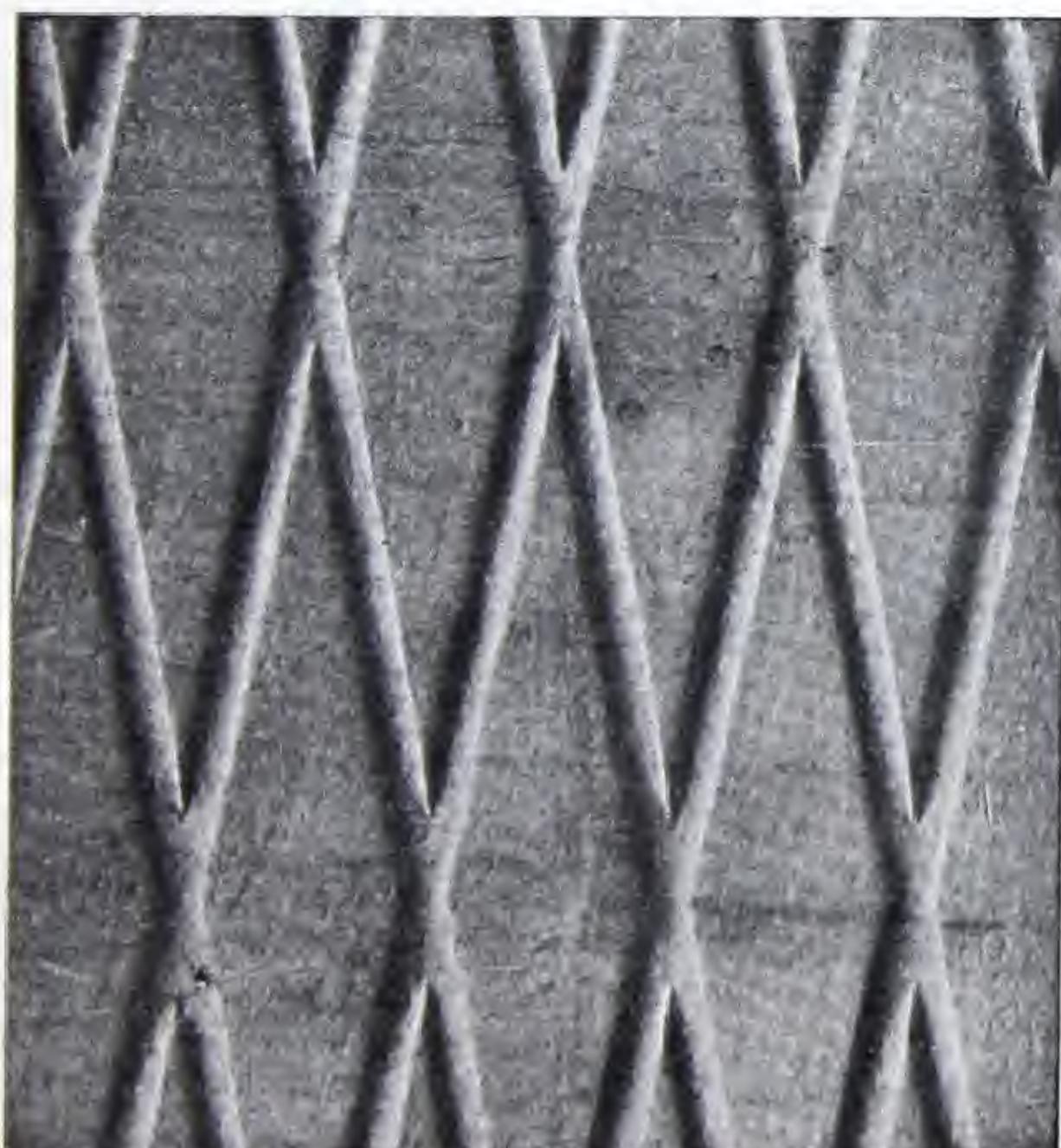
$\frac{1}{8}$ " \times $\frac{5}{16}$ " to $2\frac{15}{16}$ " \times 3"



Prices on application.

Fig. G-13

Steel Floor Plates



Depressed Diamond

or

Raised Tear Pattern

can be supplied

*Sizes and Prices
furnished on request.*

Fig. G-14
Depressed Diamond

THOMAS ROBERTSON & COMPANY, LIMITED

Steel Plates



Fig. G-15

A large assortment of Plates in various sizes and thicknesses is carried in stock. Stock list will be furnished on application.

WEIGHTS PER SQUARE FOOT

Thickness, inches	$\frac{3}{16}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$
Lbs. per Sq. Ft.	7.65	10.20	12.75	15.30	17.85	20.40	25.50	30.60
Thickness, inches	$\frac{1}{2}$	1	$1\frac{1}{2}$	$1\frac{3}{4}$	$2\frac{1}{2}$	$2\frac{3}{4}$	2	$2\frac{1}{4}$
Lbs. per Sq. Ft.	35.70	40.80	45.90	51.00	61.20	71.40	81.60	91.80

Permissible Excess in Average Weight per Square Foot of Plates for Widths given, expressed in Percentage of Nominal Weight.

Thickness Ordered (See table below)	Under 48"	48"	60"	72"	84"	96"	108"	120"	132"
		incl. to 60"	incl. to 72"	incl. to 84"	incl. to 96"	incl. to 108"	incl. to 120"	incl. to 132"	incl. to 144"
Under $\frac{1}{8}$ " excl.	9%	10%	12%	14%	..	..	..	..	..
$\frac{1}{8}$ " incl. to $\frac{3}{16}$ " excl.	8%	9%	10%	12%	..	..	..	..	..
$\frac{3}{16}$ " incl. to $\frac{1}{4}$ " excl.	7%	8%	9%	10%	12%	..	..	..	..
$\frac{1}{4}$ " incl. to $\frac{5}{16}$ " excl.	6%	7%	8%	9%	10%	12%	14%	16%	19%
$\frac{5}{16}$ " incl. to $\frac{3}{8}$ " excl.	5%	6%	7%	8%	9%	10%	12%	14%	17%
$\frac{3}{8}$ " incl. to $\frac{7}{16}$ " excl.	4 $\frac{1}{2}$ %	5%	6%	7%	8%	9%	10%	12%	15%
$\frac{7}{16}$ " incl. to $\frac{1}{2}$ " excl.	4%	4 $\frac{1}{2}$ %	5%	6%	7%	8%	9%	10%	13%
$\frac{1}{2}$ " incl. to $\frac{5}{8}$ " excl.	3 $\frac{1}{2}$ %	4%	4 $\frac{1}{2}$ %	5%	6%	7%	8%	9%	11%
$\frac{5}{8}$ " incl. to $\frac{1}{2}$ " excl.	3%	3 $\frac{1}{2}$ %	4%	4 $\frac{1}{2}$ %	5%	6%	7%	8%	9%
$\frac{1}{2}$ " incl. to 1" excl.	2 $\frac{1}{2}$ %	3%	3 $\frac{1}{2}$ %	4%	4 $\frac{1}{2}$ %	5%	6%	7%	8%
1" or over	2 $\frac{1}{2}$ %	2 $\frac{1}{2}$ %	3%	3 $\frac{1}{2}$ %	4%	4 $\frac{1}{2}$ %	5%	6%	7%

Prices on application, either from stock, or for direct shipment from the Mills.

THOMAS ROBERTSON & COMPANY, LIMITED

Steel Sheets

Sizes in Stock — U. S. Gauge

Width	Length	Width	Length	Width	Length
	No 8		No 16		No 22
36" × 96"		24" × 72"		24" × 72"	
	No 10	30" × 72", 96"		30" × 72", 96"	
30" × 72", 96"		36" × 72", 84", 96", 108", 120"		36" × 72", 96"	
36" × 72", 84", 96", 108", 120"		48" × 72", 84", 96", 120", 144"			No 24
48" × 72", 84", 96", 120", 144"		60" × 120", 144"			24" × 72"
60" × 96", 120", 144"			No 18		30" × 72", 96"
72" × 120", 144"			24" × 72"		36" × 72", 96"
	No 12		30" × 72", 96"		
30" × 72", 96"		36" × 72", 84", 96", 120"		No 26	24" × 72"
36" × 72", 84", 96", 108", 120"		48" × 96",		30" × 72", 96"	
48" × 72", 84", 96", 120", 144"			No 20		36" × 72", 96"
60" × 96", 120", 144"		24" × 72"			No 28
72" × 120", 144"		30" × 72", 96"			24" × 72"
	No 14		36" × 72", 96"		30" × 72", 96"
30" × 72", 96"					36" × 72", 96"
36" × 72", 84", 96", 108", 120"					
48" × 72", 84", 96", 120", 144"					
60" × 120", 144"					

Thickness and Weight per Square Foot

U.S. Gauge Number	28	26	24	22	20	18
Thickness, inches	.016	.019	.025	.031	.037	.050
Pounds per Sq. Ft.	.625	.75	1.00	1.25	1.50	2.00

U.S. Gauge Number	16	14	12	10	8
Thickness, inches	.062	.078	.109	.141	.172
Pounds per Sq. Ft.	2.50	3.125	4.375	5.625	6.875

Allow for permissible variations in weight, over or under, of not more than 10 per cent according to Mill practice.

Prices on application.

Galvanized Sheets



Fig. G-16

Patent Flattened, to double seam with or across the grain.
Packed in bundles of about 160 lbs.

Sizes in Stock, and Weight per Square foot.

U. S. Gauge	Size Inches	Approx. No. Sheets in Bundle	U. S. Gauge	Size Inches	Approx. No. Sheets in Bundle	U. S. Gauge	Size Inches	Approx. No. Sheets in Bundle
10 $\frac{3}{4}$ oz.	72 x 24	18	No. 24			No. 18		
	96 x 24	14	18 $\frac{1}{2}$ oz.	72 x 24	11	34 $\frac{1}{2}$ oz.	72 x 30	5
	120 x 24	11		96 x 24	8		96 x 30	4
	72 x 30	15		72 x 30	9		72 x 36	4
	96 x 30	11		96 x 30	7		96 x 36	3
	120 x 30	9		72 x 36	7		120 x 36	2
	72 x 36	12		96 x 36	6	No. 16		
	96 x 36	9		120 x 36	5	42 $\frac{1}{2}$ oz.	72 x 30	4
	120 x 36	8		96 x 48	4		96 x 30	3
No. 28							72 x 36	3
12 $\frac{1}{2}$ oz.	72 x 24	16	No. 22				96 x 36	2
	96 x 24	12	22 $\frac{1}{2}$ oz.	72 x 30	7		120 x 36	2
	120 x 24	10		96 x 30	5	No. 14		
	72 x 30	13		72 x 36	6	52 $\frac{1}{2}$ oz.	96 x 36	2
	96 x 30	10		96 x 36	5			
	120 x 30	8		120 x 36	4	No. 12		
	72 x 36	11		96 x 48	3	72 $\frac{1}{2}$ oz.	96 x 36	1
	96 x 36	8				No. 10		
	120 x 36	7				92 $\frac{1}{2}$ oz.	96 x 36	1
No. 26			No. 20					
14 $\frac{1}{2}$ oz.	72 x 24	14	26 $\frac{1}{2}$ oz.	72 x 30	6			
	96 x 24	10		96 x 30	5	For approximate weights of Galvanized Sheets, see page 7.		
	72 x 30	11		72 x 36	5			
	96 x 30	8		96 x 36	4			
	72 x 36	9		120 x 36	3			
	96 x 36	7		96 x 48	3			
	120 x 36	6						

Galvanized Sheets

Approximate Weights

Size Sheets	U.S. Gauge	10 $\frac{3}{4}$ oz	28	26	24	22	20	18	16
72" x 24"		8 lbs	9 $\frac{1}{2}$ lbs	11 lbs.	14 lbs.	17 lbs.	20 lbs	26 lbs.	32 lbs.
72" x 30"		10 "	11 $\frac{3}{4}$ "	13 $\frac{1}{2}$ "	17 $\frac{1}{4}$ "	21 "	24 $\frac{3}{4}$ "	32 $\frac{1}{4}$ "	39 $\frac{3}{4}$ "
72" x 36"		12 "	14 "	16 $\frac{1}{4}$ "	20 $\frac{3}{4}$ "	25 $\frac{1}{4}$ "	29 $\frac{3}{4}$ "	38 $\frac{3}{4}$ "	47 $\frac{3}{4}$ "
84" x 36"		14 "	16 $\frac{1}{2}$ "	19 "	24 $\frac{1}{4}$ "	29 $\frac{1}{2}$ "	34 $\frac{3}{4}$ "	45 $\frac{1}{4}$ "	55 $\frac{3}{4}$ "
96" x 24"		10 $\frac{3}{4}$ "	12 $\frac{1}{2}$ "	14 $\frac{1}{2}$ "	18 $\frac{1}{2}$ "	22 $\frac{1}{2}$ "	26 $\frac{1}{2}$ "	34 $\frac{1}{2}$ "	42 $\frac{1}{2}$ "
96" x 30"		13 $\frac{1}{2}$ "	15 $\frac{1}{2}$ "	18 "	23 "	28 "	33 "	43 "	53 "
96" x 36"		16 "	18 $\frac{3}{4}$ "	21 $\frac{3}{4}$ "	27 $\frac{3}{4}$ "	33 $\frac{3}{4}$ "	39 $\frac{3}{4}$ "	51 $\frac{3}{4}$ "	63 $\frac{3}{4}$ "
96" x 48"		37	45	53	..	..
120" x 24"		13 $\frac{1}{2}$ "	15 $\frac{1}{2}$ "	18 "	23 "	28 "	33 "	43 "	53 "
120" x 30"		16 $\frac{3}{4}$ "	19 $\frac{1}{2}$ "	22 $\frac{3}{4}$ "	29 "	35 "	41 $\frac{1}{2}$ "	54 "	56 $\frac{1}{2}$ "
120" x 36"		19 $\frac{3}{4}$ "	23 $\frac{1}{2}$ "	27 $\frac{1}{4}$ "	34 $\frac{3}{4}$ "	42 $\frac{1}{4}$ "	49 $\frac{3}{4}$ "	64 $\frac{3}{4}$ "	79 $\frac{3}{4}$ "

The following Brands of Galvanized Sheets
are carried in stock in Montreal

"GORBALS BEST BEST" High Grade Quality.

"APOLLO" Best Bloom, well-known reliable product.

"KEYSTONE" Copper Bearing Steel (highly Non-Corrosive)
For Flumes, Tanks, Silos, Roofing, etc.

"SIRDAR" Galvanized Sheets, for use in places where a
lower grade of Iron will serve the purpose.

Prices for any Quality and Quantity, furnished on application

THOMAS ROBERTSON & COMPANY, LIMITED

Corrugated Galvanized Sheets

Sizes of Sheets after corrugation

30" wide reduced to 27 $\frac{1}{2}$ "

36" " " " 33"

Width of corrugation 2 $\frac{1}{2}$ "

Allow 2" in width to each Sheet for overlap



Fig. G-17

Approximate Weight in Lbs. per Sheet

U.S. Gauge No.	16	18	20	22	24	26	28	10 $\frac{3}{4}$ ozs.
Size of Sheet								
72" x 30"	39 $\frac{3}{4}$	32 $\frac{1}{4}$	24 $\frac{3}{4}$	21	17 $\frac{1}{4}$	13 $\frac{1}{2}$	11 $\frac{3}{4}$	10
96" x 30"	53	43	33	28	23	18	15 $\frac{3}{4}$	13 $\frac{1}{2}$
120" x 30"	..	..	..	..	..	22 $\frac{3}{4}$	19 $\frac{1}{2}$	16 $\frac{3}{4}$
72" x 36"	47 $\frac{3}{4}$	38 $\frac{3}{4}$	29 $\frac{3}{4}$	25 $\frac{1}{4}$	20 $\frac{3}{4}$	16 $\frac{1}{4}$	14	12
96" x 36"	63 $\frac{3}{4}$	51 $\frac{3}{4}$	39 $\frac{3}{4}$	33 $\frac{3}{4}$	27 $\frac{3}{4}$	21 $\frac{3}{4}$	18 $\frac{3}{4}$	16
120" x 36"	..	..	..	..	..	27 $\frac{1}{2}$	23 $\frac{1}{2}$	19 $\frac{3}{4}$

Other Sizes and Gauges can be supplied. Prices on application.

Corrugated Galvanized Ridge Cap

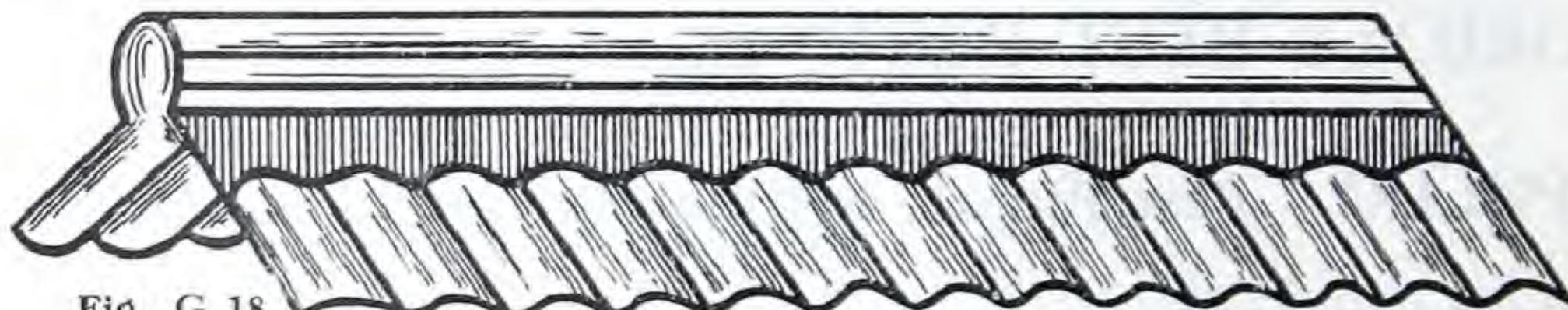


Fig. G 18

Stamped out of the Solid from specially prepared soft steel sheets.

Depth of Apron, Inches	6	12	18	24
Price per Lineal Foot	.20	.29	.38	.54

N.B. — Can be adjusted to any pitch of roof. Corrugations 2 $\frac{1}{2}$ inches. Does not require nailing through top of ridge to wood filling.

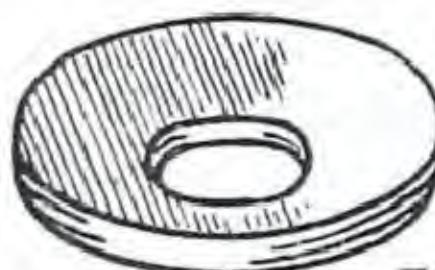


Fig. G-19



Lead Roofing Washers

Average to lb — 350

THOMAS ROBERTSON & COMPANY, LIMITED

Charcoal Tinned Sheet Iron

“GORBALS BEST” HEAVILY COATED

B.G.	Size Inches	Approx. No. Sheets in Case	Approx. Weight per Sheet	B.G.	Size Inches	Approx. No. Sheets in Case	Approx. Weight per Sheet
26	60×14	67	4 $\frac{3}{4}$ lbs.	22	96×30	23	25 lbs.
	72×30	47	12 "		72×36	25	22 $\frac{1}{2}$ "
	96×30	35	16 "		84×36	21	26 $\frac{1}{4}$ "
	84×36	33	17 "		96×36	18	30 "
	96×36	29	19 $\frac{1}{2}$ "		84×42	18	30 $\frac{1}{2}$ "
24	58×30	44	12 lbs.	20	96×42	16	35 "
	72×30	38	15 "		84×48	16	35 "
	96×30	28	20 "		96×48	14	40 "
	72×36	32	18 "		72×30	24	23 $\frac{1}{2}$ lbs.
	84×36	28	21 "		84×42	15	38 $\frac{1}{2}$ "
	96×36	23	24 "		96×48	12	50 "
	84×42	23	24 $\frac{1}{2}$ "				
	84×48	20	28 "		72×30	22	30 lbs.
	96×48	18	32 "				
22	58×30	36	15 lbs.	16	50×17	40	14 $\frac{3}{4}$ lbs.
	72×30	30	18 $\frac{3}{4}$ "		72×30	18	37 $\frac{1}{2}$ "

Approximate Weight, Tinned Sheets

B.G. No.	26	24	22	20	18	16
Oz. per Square Foot..	13	16	20	25	32	40

Size 60" x 14" (No. 26) is packed in cases of about 325 lbs. gross,
and all other Sizes in cases of about 580-600 lbs. gross.

All have tissue paper between the sheets.

Prices on application

FIRE DOOR TERNES to meet Canadian Fire Underwriters' Specifications
Copper Steel Fire Door, Standard 20 lbs. Coating
IC 14"×20" 112 Sheets to the Box. 113 lbs Net.

LONG TERNES (or Kalamein Iron) specially adapted for Automobile Fenders,
Hoods, Mudguards, Lamps, and Gasoline Tanks, Fireproof Doors, etc.

Prices on application.

Charcoal Tin Plates

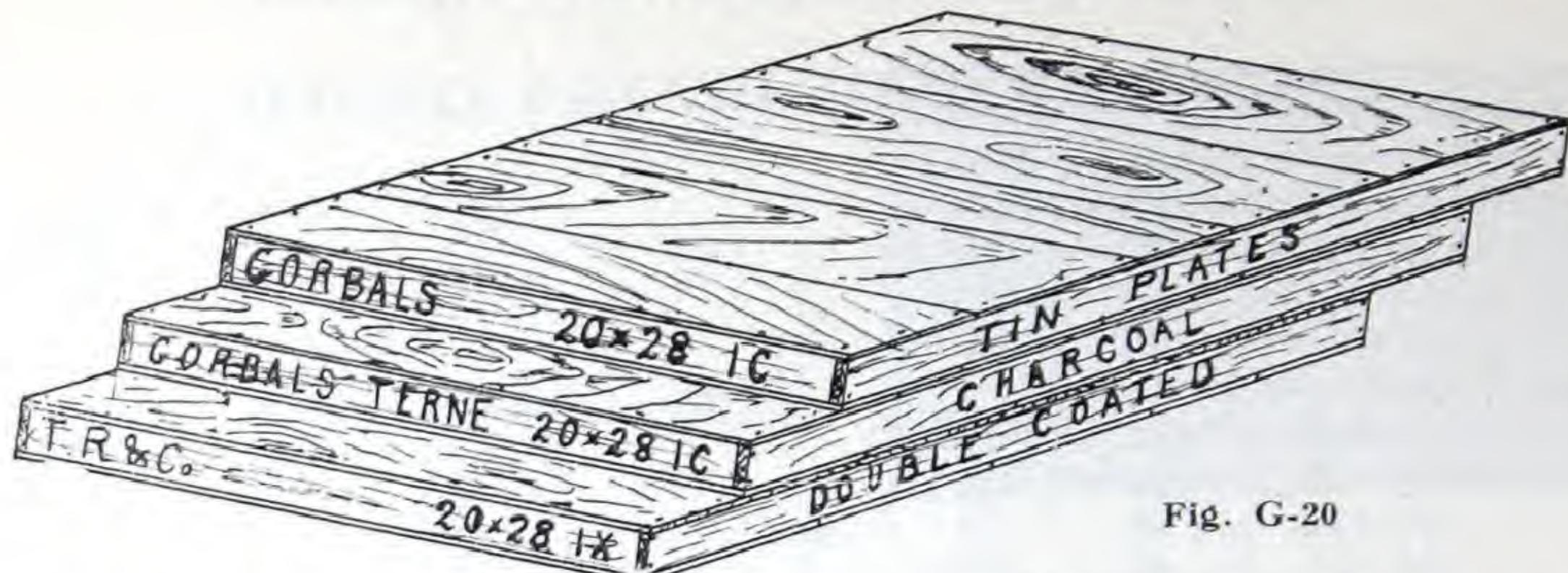


Fig. G-20

Sizes in Stock

56 Sheets Per Box

Weight Letters	IC	IX	IX	IXX	IXXX
Gauge of Sheets	No. 30	No. 28	No. 28	No. 27	No. 26
Size of Plates	20"×28"	20"×28"	20"×33"	20"×28"	20"×28"
Weight per Box . . . lbs.	108	135	160	156	178

Other sizes imported to order.

Prices on application.

TERNE PLATES, I.C. 20"×28", 216 lbs., made from High Grade Copper Bearing Open Hearth Steel with from 8 to 40 pounds of Tin and Lead coating.

Canada Plates



**All Dull, Half Bright,
Polished or Galvanized**

Prices on application.

Fig. G-21

Size of Plate	I. W. Gauge	No. of Sheets in Box	Approx. Weight
18"×24"	26	52	112 lbs.
18"×24"	28	60	112 lbs.

THOMAS ROBERTSON & COMPANY, LIMITED

Sheet Zinc

Size of Sheet, 8 ft. x 3 ft.		Average weight per cask, 560 lbs.							
V. M. Gauge No.	1	2	3	4	5	6	7	8	9
Thickness, Inches	.004	.006	.007	.008	.010	.011	.013	.015	.018
Pounds per Sq. Foot	.148	.207	.251	.307	.363	.427	.494	.565	.663
V. M. Gauge No.	10	11	12	13	14	15	16	17	18
Thickness, Inches	.020	.023	.026	.029	.032	.038	.043	.048	.053
Pounds per Sq. Foot	.734	.854	.973	1.09	1.21	1.40	1.59	1.79	1.97

Gauges No. 8 and 9 kept in Stock.

Nickel Zinc

Stock Size of Sheet 96" x 36"

Chrome Zinc

Prices on application.

Aluminum Sheets

Size 96" x 36"

B. & S. Gauge . . .	10	12	14	16	18	20	22	24	26	28
Lbs. per Sq. Ft. . .	1.44	1.14	.904	.716	.568	.451	.357	.283	.224	.178

Also Aluminum Ingots, Bars, Rods, Rivets, etc.

Prices on application.

Monel Metal Sheets

Particulars of Sizes and Gauges, Weights, Prices, Uses, etc., furnished on request.

Also supplied in Rods, Tubes, Strips, Wire, etc.

Sheet Brass, Roll Brass, & Spring Brass

For Weights see page 12.

SHEETS 48" x 24"	Nos.	10	12	14	15	16	17	18
		19	20	21	22	24	26	

ROLL BRASS	12" Wide	Nos.	10	12	14	16	18	20	22	24	26	28
	14" Wide	Nos.	24	26	30							
	16" Wide	Nos.	24	26								
	18" Wide	Nos.	24	26								

SPRING BRASS 8 ft. long x 8 ins. wide Nos. 16 18 19 20 21 22 23 24 25 26

Special Sizes imported to order.

Prices on application.

Sheet Copper

Sizes in Stock and Weights per Square Foot.

HOT ROLLED

48" x 14" x No. 26—	14 oz.
48" x 24" x No. 26—	14 oz.
60" x 14" x No. 26—	14 oz.
72" x 30" x No. 24—	16 oz.
x No. 26—	14 oz.
72" x 48" x No. 7—	136 oz.
x No. 10—	104 oz.
x No. 12—	80 oz.
x No. 14—	64 oz.
x No. 15—	56 oz.
x No. 16—	48 oz.
x No. 16—	44 oz.
x No. 17—	40 oz.
x No. 18—	36 oz.
x No. 19—	30 oz.
x No. 20—	28 oz.
x No. 21—	24 oz.
x No. 22—	20 oz.
x No. 23—	18 oz.
x No. 24—	16 oz.
x No. 26—	14 oz.
96" x 24" x No. 24—	16 oz.
x No. 26—	14 oz.
96" x 30" x No. 24—	16 oz.
x No. 26—	14 oz.
96" x 36" x No. 16—	48 oz.
x No. 18—	36 oz.
x No. 20—	28 oz.
x No. 21—	24 oz.

HOT ROLLED

96" x 36" x No. 22—	20 oz.
x No. 23—	18 oz.
x No. 24—	16 oz.
x No. 26—	14 oz.
120" x 14" x	$\frac{1}{4}$ —192 oz.
x $\frac{3}{16}$ —	136 oz.
x No. 10—	104 oz.
x No. 12—	80 oz.
x No. 14—	64 oz.
x No. 16—	48 oz.
x No. 18—	36 oz.
x No. 20—	28 oz.
x No. 22—	20 oz.
x No. 24—	16 oz.
x No. 26—	14 oz.

COLD ROLLED

60" x 14" x No. 26—	14 oz.
72" x 30" x No. 24—	16 oz.
x No. 26—	14 oz.
96" x 24" x No. 24—	16 oz.
x No. 26—	14 oz.
96" x 30" x No. 24—	16 oz.
x No. 26—	14 oz.
96" x 36" x No. 16—	48 oz.
x No. 18—	36 oz.
x No. 20—	28 oz.
x No. 21—	24 oz.
x No. 22—	20 oz.
x No. 23—	18 oz.
x No. 24—	16 oz.
x No. 26—	14 oz.

Tinned One Side and Planished on the other side.

60" x 14" x No. 26—14 oz.

Linings for Low Tanks

Size of Copper Size of Tank
 $47\frac{1}{2}'' \times 14'' \times 10$ oz } $19\frac{1}{2}'' \times 5\frac{1}{2}'' \times 13\frac{1}{2}''$
 $19\frac{1}{2}'' \times 6'' \times 10$ oz }

Size of Copper	Size of Tank
$28\frac{1}{4}'' \times 17'' \times 10$ oz.	$17'' \times 8'' \times 10$
$10\frac{3}{4}'' \times 8'' \times 10$ oz.	
$29\frac{1}{4}'' \times 20'' \times 10$ oz.	$20'' \times 9'' \times 10''$
$10\frac{3}{4}'' \times 9'' \times 10$ oz.	
$34\frac{1}{4}'' \times 22'' \times 10$ oz.	$22'' \times 10'' \times 12''$
$12\frac{3}{4}'' \times 10'' \times 10$ oz.	

Weights of Brass Sheets

These weights are theoretically correct, but variations must be expected in practice.

Gauge No.	Per Square Foot Lbs. oz.	Gauge No.	Per Square Foot Lbs. oz.	Gauge No.	Per Square Foot Lbs. oz.
7	8 1	15	3 3	23	1 $1\frac{1}{4}$
8	7 $9\frac{3}{4}$	16	2 $13\frac{1}{2}$	24	1 0
9	6 $6\frac{1}{2}$	17	2 $8\frac{1}{2}$	25	0 $14\frac{1}{4}$
10	6 $0\frac{3}{4}$	18	2 4	26	0 $12\frac{1}{2}$
11	5 $6\frac{1}{2}$	19	1 14	27	0 $11\frac{1}{4}$
12	4 $12\frac{3}{4}$	20	1 $9\frac{1}{2}$	28	0 10
13	4 $4\frac{1}{4}$	21	1 $6\frac{3}{4}$	29	0 9
14	3 $9\frac{1}{4}$	22	1 4	30	0 $8\frac{3}{4}$

For Stock Sizes of Sheets, see page 11.

THOMAS ROBERTSON & COMPANY, LIMITED

Bar Copper

Sizes in Stock; Round:— $\frac{3}{8}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, 1, $1\frac{1}{4}$, $1\frac{1}{2}$, 2 inches

Square:—1, $1\frac{1}{4}$, $1\frac{1}{2}$, $1\frac{3}{4}$ inches

Average length about 12 feet

Brass Rod

Sizes in Stock; Round:— $\frac{3}{16}$, $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{7}{16}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, 1, $1\frac{1}{8}$, $1\frac{1}{4}$, $1\frac{3}{8}$, $1\frac{1}{2}$, $1\frac{3}{4}$, 2 inches

Hexagon:— $\frac{1}{4}$ $\frac{3}{8}$ $\frac{1}{2}$ $\frac{5}{8}$ $\frac{3}{4}$ 1 inches

Average length about 11 feet

Table of Weights in Lbs. per Lineal Foot of Brass and Copper Rod

Inches	BRASS		COPPER		Inches	BRASS		COPPER	
	Round	Square	Round	Square		Round	Square	Round	Square
$\frac{1}{16}$	.011	.014	.012	.015	$1\frac{5}{16}$	4.991	6.355	5.220	6.647
$\frac{1}{8}$	.045	.058	.047	.060	$1\frac{3}{8}$	5.478	6.974	5.729	7.295
$\frac{3}{16}$	.102	.130	.106	.136	$1\frac{7}{16}$	5.987	7.623	6.262	7.973
$\frac{1}{4}$	.181	.231	.189	.241	$1\frac{1}{2}$	6.519	8.300	6.818	8.681
$\frac{5}{16}$	.283	.360	.296	.377	$1\frac{9}{16}$	7.073	9.006	7.398	9.420
$\frac{3}{8}$	.407	.519	.426	.543	$1\frac{5}{8}$	7.651	9.741	8.002	10.190
$\frac{7}{16}$	.555	.706	.580	.739	$1\frac{11}{16}$	8.25	10.50	8.63	10.99
$\frac{1}{2}$	.724	.922	.758	.965	$1\frac{3}{4}$	8.87	11.30	9.28	11.82
$\frac{9}{16}$	.917	1.167	.959	1.221	$1\frac{13}{16}$	9.52	12.12	9.95	12.68
$\frac{5}{8}$	1.132	1.441	1.184	1.507	$1\frac{7}{8}$	10.19	12.97	10.65	13.56
$\frac{11}{16}$	1.369	1.744	1.432	1.824	$1\frac{15}{16}$	10.88	13.85	11.38	14.48
$\frac{3}{4}$	1.630	2.075	1.705	2.170	2	11.59	14.76	12.12	15.43
$\frac{13}{16}$	1.913	2.435	2.001	2.547	$2\frac{1}{8}$	13.08	16.66	13.68	17.42
$\frac{7}{8}$	2.218	2.824	2.320	2.954	$2\frac{1}{4}$	14.67	18.68	15.34	19.53
$\frac{15}{16}$	2.546	3.242	2.663	3.391	$2\frac{3}{8}$	16.34	20.81	17.09	21.76
					$2\frac{1}{2}$	18.11	23.06	18.94	24.12
1	2.897	3.689	3.030	3.858					
$1\frac{1}{16}$	3.271	4.164	3.421	4.356	$2\frac{5}{8}$	19.96	25.42	20.88	26.59
$1\frac{1}{8}$	3.667	4.669	3.835	4.883	$2\frac{3}{4}$	21.91	27.90	22.92	29.18
$1\frac{3}{16}$	4.086	5.202	4.273	5.441	$2\frac{7}{8}$	23.95	30.49	25.05	31.89
$1\frac{1}{4}$	4.527	5.764	4.735	6.029	3	26.08	33.20	27.27	34.73

For approximate weight of HEXAGON and OCTAGON Rods, add weights of Round and Square of equal dimension, and divide by two.

These tables are theoretically correct, but variation must be expected in practice.

THOMAS ROBERTSON & COMPANY, LIMITED

Copper Tube

SEAMLESS — Lengths 12 Feet

Outside Diam., inches	$\frac{1}{4}$	$\frac{5}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{5}{6}$	$\frac{7}{8}$	1	$1\frac{1}{4}$
Thickness, Gauge.	.19	.17	.16	.14	.16	.15	.14	.14
" inches.	.042	.058	.065	.083	.065	.072	.083	.083
Lbs. per lineal foot	.106	.224	.344	.421	.443	.594	.926	.1.18

Outside Diam., inches	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{3}{4}$	2	2	$2\frac{1}{2}$	$2\frac{1}{2}$	$2\frac{1}{2}$
Thickness, Gauge.	.14	.11	.11	.10	.18	.18	.10	.10
" inches.	.083	.120	.120	.134	.049	.049	.134	.134
Lbs. per lineal foot	1.43	2.02	2.38	3.04	1.16	1.24	3.45	3.86

IRON PIPE SIZE — Lengths 12 Feet

Iron Pipe Size, inches	$\frac{1}{4}$	$\frac{1}{2}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{1}{4}$	1	$1\frac{1}{4}$
Outside Diameter, "	.405	.540	.675	.840	1.05	1.31	1.66
Inside Diameter, "	.280	.375	.494	.625	.822	1.06	1.37
Lbs. per lineal foot	.259	.460	.644	.959	1.30	1.83	2.69

Iron Pipe Size, inches	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	4	5	6
Outside Diameter, "	1.90	2.375	2.875	3.500	4.50	5.563	6.625
Inside Diameter, "	1.60	2.062	2.500	3.062	4.00	5.062	6.125
Lbs. per lineal foot	3.20	4.23	6.14	8.75	12.94	16.20	19.41

EXTRA HEAVY — IRON PIPE SIZE — Lengths 12 Feet

Iron Pipe Size, inches	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{1}{4}$	1	$1\frac{1}{4}$
Outside Diameter, "	.405	.540	.675	.840	1.05	1.31	1.66
Inside Diameter, "	.205	.294	.421	.542	.736	.951	1.27
Lbs. per lineal foot	.371	.625	.846	1.25	1.71	2.51	3.46

Iron Pipe Size, inches	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	4	5	6
Outside Diameter, "	1.90	2.375	2.875	3.500	4.500	5.563	6.625
Inside Diameter, "	1.49	1.933	2.315	2.892	3.818	4.813	5.751
Lbs. per lineal foot	4.19	5.80	8.85	11.83	17.27	23.69	32.93

SQUARE and HEXAGON Tubes can be supplied to order

Tubes can be Polished or Nickel-plated or Chrome-plated if desired

Annealed Copper Tubing

Gauge No. 22 20 20 20 } Average length of Coils, about 45 ft.
Outside Diam. inches $\frac{3}{16}$ $\frac{1}{4}$ $\frac{5}{16}$ $\frac{3}{8}$

Prices for any of the above, quoted on application.

THOMAS ROBERTSON & COMPANY, LIMITED

Brass Tube

SEAMLESS

Outside Diam. inches	$\frac{1}{8}$	$\frac{3}{16}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{9}{16}$	$\frac{3}{4}$	$\frac{7}{8}$	1	1	1	$1\frac{1}{8}$
Thickness, Gauge	23	22	20	20	20	20	20	20	20	20	20	14	12	20
Length Feet	14	14	14	14	14	14	14	14	14	14	14	12	15	14
Lbs. per lineal foot . . . . .	.029	.052	.087	.113	.138	.163	.188	.239	.290	.340	.391	.88	1.12	.460

Outside Diam. inches	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{3}{8}$	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{3}{4}$	$1\frac{3}{4}$	2	2	$2\frac{1}{2}$	3	
Thickness, Gauge	20	14	20	20	12	12	20	11	19	12	18	18
Length Feet	14	12	14	14	12	14	14	12	14	12	14	14
Lbs. per lineal foot . . . . .	.492	1.12	.525	.593	1.75	1.75	.694	2.26	.951	2.39	1.39	1.67

IRON PIPE SIZE — Lengths 12 Feet

Iron Pipe Size, inches	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{4}$
Outside Diam. "	.405	.540	.675	.840	1.05	1.31	1.66	
Inside Diam. "	.280	.375	.494	.625	.822	1.06	1.37	
Lbs. per lineal foot . . . . .	.246	.437	.612	.911	1.23	1.74	2.56	

Iron Pipe Size, inches	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	4	5	6
Outside Diam. "	1.90	2.375	2.875	3.500	4.50	5.563	6.625
Inside Diam. "	1.60	2.062	2.500	3.062	4.00	5.062	6.125
Lbs. per lineal foot	3.04	4.02	5.83	8.32	12.30	15.40	18.45

EXTRA HEAVY — IRON PIPE SIZE — Lengths 12 feet

Iron Pipe Size, inches	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{4}$
Outside Diam. "	.405	.540	.675	.840	1.05	1.31	1.66	
Inside Diam. "	.205	.294	.421	.542	.736	.951	1.27	
Lbs. per lineal foot . . . . .	.353	.594	.806	1.19	1.62	2.39	3.29	

Iron Pipe Size, inches	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	4	5	6
Outside Diam. "	1.90	2.375	2.875	3.500	4.500	5.563	6.625
Inside Diam. "	1.49	1.933	2.315	2.892	3.818	4.813	5.751
Lbs. per lineal foot	3.99	5.51	8.41	11.25	16.41	22.52	31.30

RED BRASS Tubes are slightly heavier than above tables. Particulars on request

SQUARE and HEXAGON Tubes can be supplied to order

Tubes can be Polished or Nickel-plated or Chrome-plated if desired

Block Tin Tubing

Inside Measurement, Inches	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{5}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{1}{4}$	1	1
Weight in Ounces, per Ft.	4	6	$4\frac{1}{2}$	6	6	8	7	9	11	14	14

Other Sizes and Weights Made to Order

Prices for any of the above, quoted on application.

THOMAS ROBERTSON & COMPANY, LIMITED

Lead Pipe

IN COILS — Pounds per Yard

Inside Diameter	Extra Light	Light	Medium	Strong	Extra Strong
$\frac{1}{4}''$	..	$1\frac{1}{4}$	2	$2\frac{3}{4}$	$3\frac{1}{2}$
$\frac{3}{8}''$	..	$2\frac{1}{2}$	3	4	$5\frac{1}{2}$
$\frac{1}{2}''$	$2\frac{1}{2}, 3, 3\frac{1}{2}$	4	$4\frac{1}{2}$	$5, 5\frac{1}{2}, 6^*$	$7, 8$
$\frac{5}{8}''$	$4\frac{1}{2}$	5	6	7, 8	$9, 10^*$
$\frac{3}{4}''$	5	6	7	8	$9, 10^*$
$1''$	$5, 5\frac{1}{2}$	6	7	8	$10, 12, 14^*$
$1\frac{1}{4}''$	$6, 7$	8	10	12	14
$1\frac{1}{2}''$	$8, 9, 10$	11	12	14	$16, 18$
$1\frac{3}{4}''$	14	16	18	20	24
$2''$	15, 16	18	20	22	30, 32
$2\frac{1}{2}''$	..	20	24	27	
$3''$	..	27	30	34	

Items marked * are Corporation Standard.

LEAD PIPE IN STRAIGHT LENGTHS. $\frac{1}{4}''$ to $12''$ diam., is made of Pure Pig Lead or of Special Alloys to order, and is solid drawn.

Weight of Lead Pipe per Lineal Yard in lbs.

Internal Diam. inches	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1
Thickness $\frac{1}{6}$ inch	.915	1.28	1.64	2.01	2.37	3.09
" $\frac{1}{6}$ "	2.172	2.90	3.63	4.38	5.10	6.57
" $\frac{3}{8}$ "	3.84	4.95	6.03	7.14	8.22	10.41
" $\frac{1}{6}$ "	5.85	7.32	8.79	10.26	11.70	14.64
" $\frac{5}{8}$ "	8.22	10.05	11.88	13.71	15.54	19.20
" $\frac{3}{8}$ "	10.95	13.14	15.33	17.55	19.74	24.12

Internal Diam. inches	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{3}{4}$	2	$2\frac{1}{2}$	3
Thickness $\frac{1}{6}$ inch	3.84	4.56	5.28	6.03	7.47	8.94
" $\frac{1}{6}$ "	8.07	9.54	11.01	12.48	15.42	18.36
" $\frac{3}{8}$ "	12.63	14.82	17.01	19.20	23.58	27.96
" $\frac{1}{6}$ "	17.55	20.49	23.43	26.34	32.10	38.10
" $\frac{5}{8}$ "	22.86	26.52	30.30	33.90	41.10	48.30
" $\frac{3}{8}$ "	28.50	33.00	37.20	41.70	50.40	59.10

Internal Diam. inches	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5	6	7	8	10	12
Thickness $\frac{1}{6}$ inch	30	$37\frac{1}{2}$	42	45	54	63	72	93	111
" $\frac{1}{6}$ "	45	48	54	60	72	84	99	123	150
" $\frac{5}{8}$ "	55	63	69	75	90	108	126	156	189
" $\frac{3}{8}$ "	66	75	87	93	111	132	153	189	228
" $\frac{7}{16}$ "	80	90	99	111	132	156	180	225	270

Prices quoted on application.

Lead Waste Pipe

Standard length 6 ft. and 8 ft. each

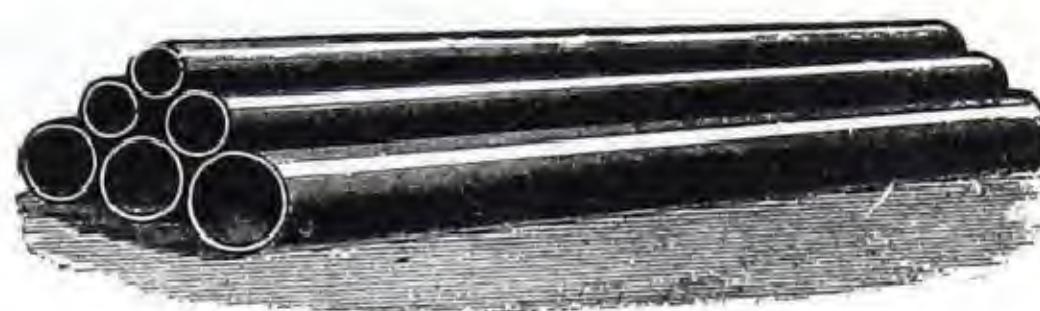


Fig. G-22

Pounds per Yard

Inside Diameter	1 $\frac{1}{4}$ "	1 $\frac{1}{2}$ "	2"	2 $\frac{1}{2}$ "	3"	3 $\frac{1}{2}$ "	4"
Light, lbs. per yard	5	5 $\frac{1}{2}$	7	8 $\frac{1}{2}$	10	..	13 $\frac{1}{2}$
Medium, "	6	7	8	12 $\frac{1}{2}$	16 $\frac{1}{2}$	..	18
Strong, "	7	8	10	15 $\frac{1}{2}$	22	23	24
Extra strong, "	8	9	13	23	30	..	36
No. of lengths per case	25	20	15	..	..	..	..

Composition Gas Pipe

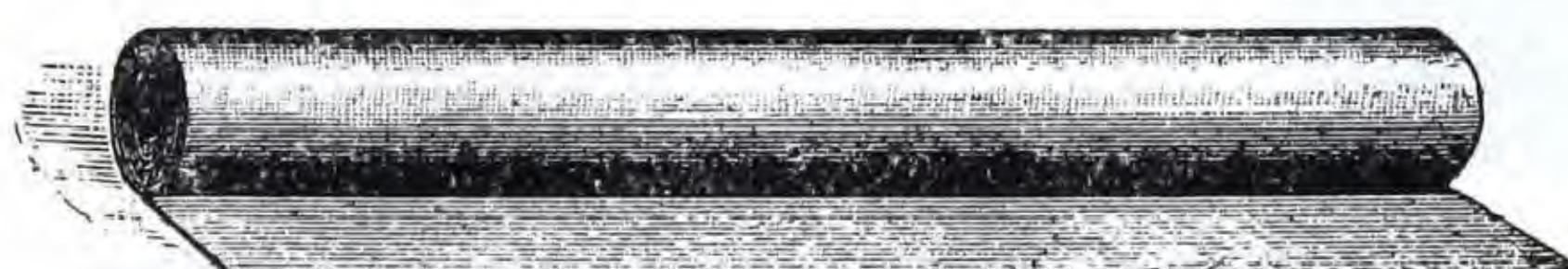
Size	$\frac{1}{4}$ "	$\frac{3}{8}$ "	$\frac{1}{2}$ "	$\frac{5}{8}$ "	$\frac{3}{4}$ "	1"
Weight per yard	14 oz.	1 lb.	$1\frac{3}{4}$ lbs.	$2\frac{1}{4}$ lbs.	3 lbs.	$3\frac{1}{4}$ lbs.

N. B. — Heavier Sections than listed are made to order.

Weights are Approximate only.

Prices on application.

Sheet Lead



Sheets cut to
any size required

Stock Size
20 ft. x 8 ft.

Fig. G-23

Lbs. per square foot	2 $\frac{1}{2}$	3	4	5	6	7	8	10	12	14	16
Thickness	$\frac{1}{24}$ "	$\frac{3}{64}$ "	$\frac{1}{16}$ "	$\frac{5}{64}$ "	$\frac{3}{32}$ "	$\frac{7}{64}$ "	$\frac{1}{8}$ "	$\frac{5}{32}$ "	$\frac{3}{16}$ "	$\frac{7}{32}$ "	$\frac{1}{4}$ "
Decimal of an inch ..	.042	.047	.063	.078	.094	.109	.125	.156	.187	.219	.252
Nearest Gauge	19	18	16	14	12	11	10	8	7	5	4

Sheet Lead is supplied of Pure Pig Lead unless specified otherwise. Sheet Lead is also made of various Alloys for any special purpose, as required. Prices on application.

THOMAS ROBERTSON & COMPANY, LIMITED

Metals

Pig Lead

95 lbs.



Fig. G-24

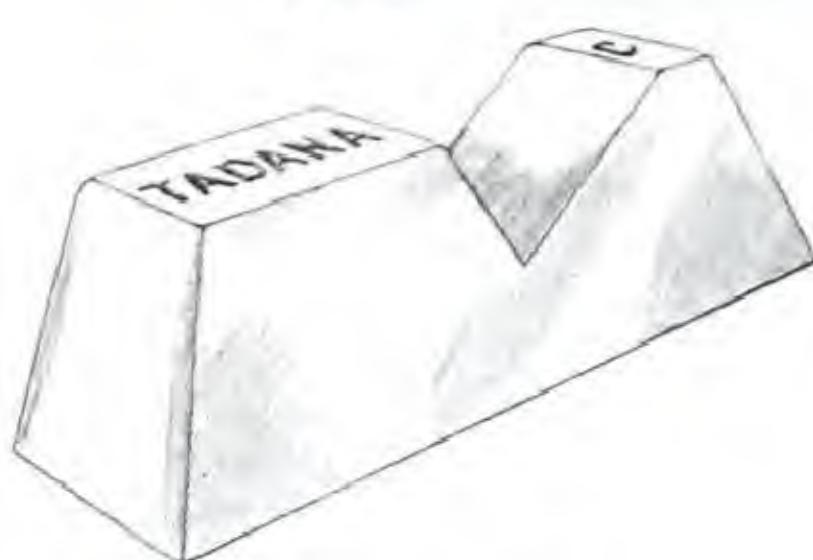


Fig. G-25

Bar Lead and Caulking Lead

5 lbs.



Fig. G-26

Lead Wool

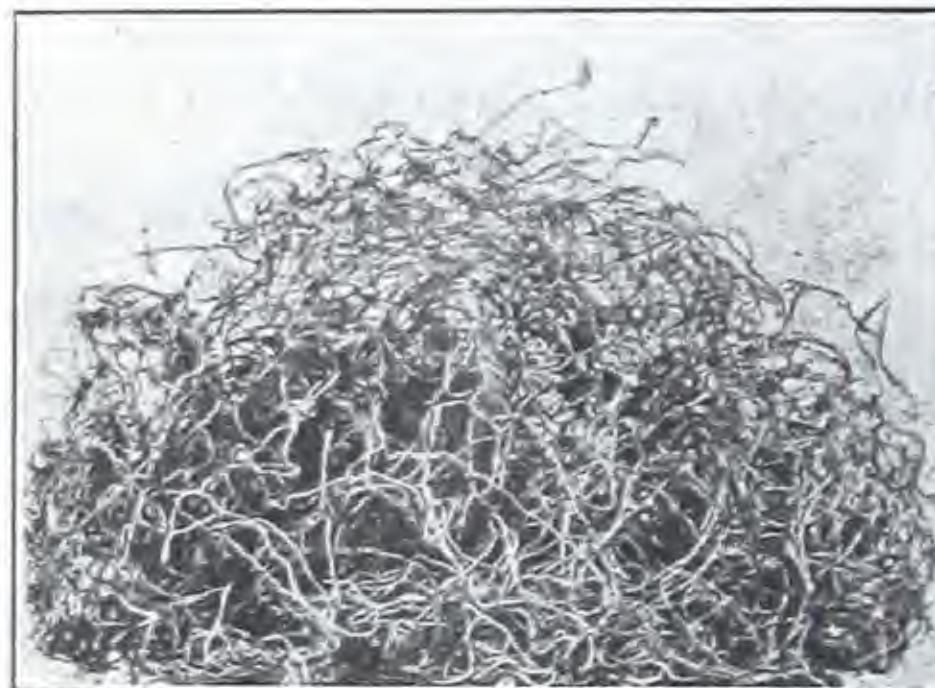


Fig. G-27

Strip Tin



Fig. G-28

Ingot Tin, Lamb and Flag

28 lbs. and 56 lbs.



Fig. G-29

Zinc Spelter



Fig. G-30

Zinc Spelter

56 lbs.

All Weights are approximate
Prices on application.

THOMAS ROBERTSON & COMPANY, LIMITED

Metals

Solder

Sticks of 1 lb.

Guaranteed 50-50
or Strictly Solder
or Commercial

V-MOULD in $\frac{1}{2}$ -lb. Sticks

WIRE SOLDER in 50 lb. Reels

FINE WIPING SOLDER
in 5 lb. bars



Fig. G-31



Fig. G-32

Babbitt Metal In 5 lb. Bars

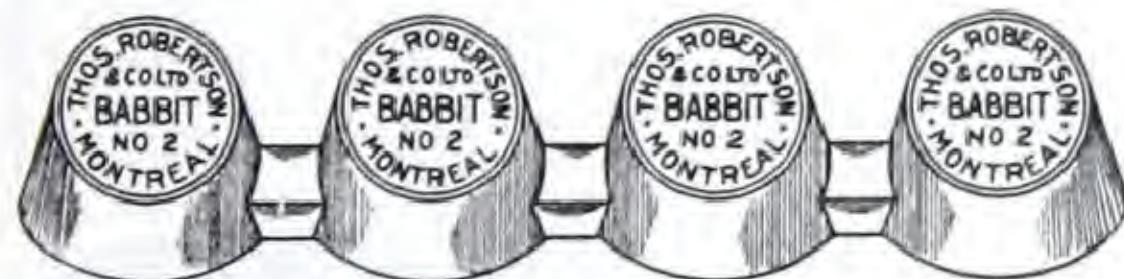


Fig. G-33

Antimony 35 lbs.

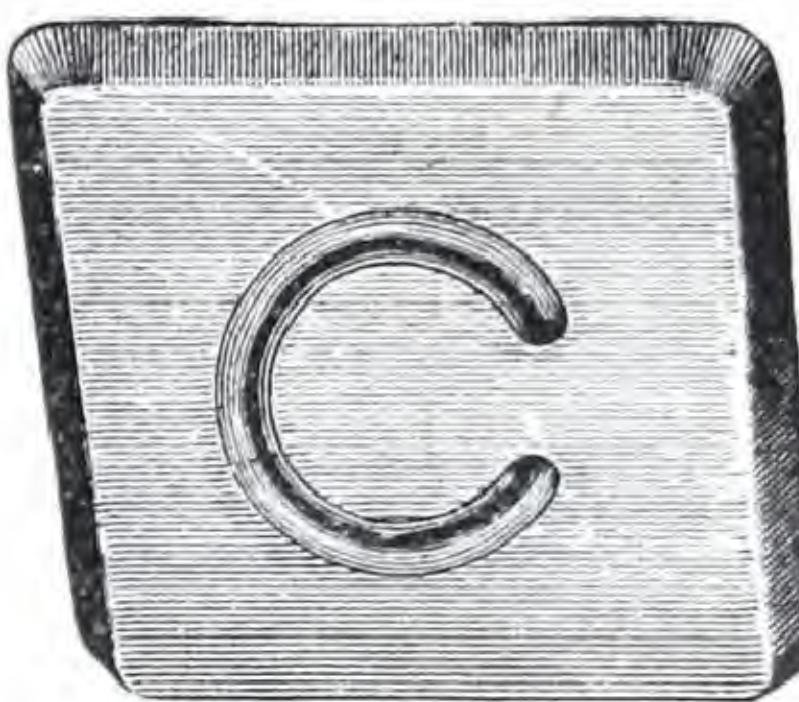


Fig. G-34

- No. 1. For heavy work and bearings running at high speed.
- No. 2. For heavy work and moderate speed.
- No. 3. For light or medium bearings at moderate speed, small machines, etc.

Brass Spelter Solder

No. 7 Pebble



No. 5 Coarse



No. 4 Medium



No. 3 Fine



Fig. G-35

Prices on application. Weights are approximate only.

Seamless Steel Boiler Tubes



Fig. G-36 — PLAIN ENDS

Outside Diam. inches	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	1 $\frac{3}{4}$	2	2 $\frac{1}{4}$	2 $\frac{1}{2}$	2 $\frac{3}{4}$
Stubs' Gauge	13	13	13	13	13	12	12	12
Thickness, inches	.095	.095	.095	.095	.095	.109	.109	.109
Lbs. per lineal foot	1.06	1.34	1.64	1.93	2.22	2.86	3.20	3.53
Price " " "	.32	.30	.28	.24	.22	.29	.32	.35
" 1 extra Gauge	.35	.33	.31	.26	.25	.31	.35	.39
" 2 " "	.38	.36	.34	.28	.28	.35	.39	.43
" 3 " "	.41	.39	.38	.31	.31	.38	.43	.47
" 4 " "	.45	.43	.42	.34	.34	.42	.47	.52

Outside Diam. inches	3	3 $\frac{1}{4}$	3 $\frac{1}{2}$	4	4 $\frac{1}{2}$	5	6
Stubs' Gauge	12	11	11	10	9	9	7
Thickness, inches	.109	.120	.120	.134	.148	.148	.180
Lbs. per lineal foot	3.87	4.61	4.98	6.36	7.91	8.82	12.86
Price " " "	.39	.46	.50	.64	.79	.88	1.29
" 1 extra Gauge	.42	.51	.55	.70	.88	.98	1.45
" 2 " "	.47	.56	.61	.78	.95	1.07	1.56
" 3 " "	.52	.63	.68	.84	1.07	1.20	1.68
" 4 " "	.58	.68	.73	.95	1.16	1.29	1.83

Boiler Stay Tubes



Fig. G-37. Swelled at one end or both ends.



Fig. G-38. Reducing at one end, other end plain or Swelled.



Fig. G-39
Section, swelled end

When ordering, state whether ends are to be thickened or swelled, also give the following information:—

Outside diam. of tube.

Outside diam. of end.

Length over all.

Thickness of tube — Thickness of end.



Fig. G-40
Section, thickened end

Unless otherwise ordered, tubes will be thickened $2\frac{1}{2}$ " up. Prices on application.

Seamless Copper Boiler Tube Ferrules



Fig. G-41 Plain

Plain or Flanged

Price per 100

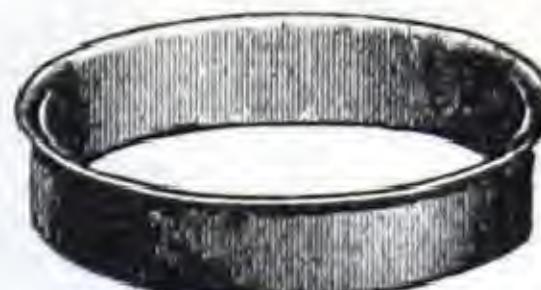


Fig. G-42 Flanged

Inside Diameter	Width Inches	Thickness in Inches		
		$\frac{5}{8}$	$\frac{3}{4}$	$\frac{1}{2}$
1 $\frac{1}{2}$ "	$\frac{5}{8}$	\$ 9.30	\$14.20	\$17.00
1 $\frac{1}{2}$ "	$\frac{3}{4}$	...	...	20.00
1 $\frac{3}{4}$ "	$\frac{4}{5}$	10.80	16.40	20.25
2"	$\frac{5}{8}$	12.30	18.60	23.00
2"	$\frac{3}{4}$	14.80	22.30	27.75
2 $\frac{1}{4}$ "	$\frac{5}{8}$	13.50	20.40	25.25
2 $\frac{1}{2}$ "	$\frac{5}{8}$	15.00	22.80	28.25
3"	$\frac{3}{4}$	21.90	33.00	41.00

Prices for other Sizes and Widths on application.



Fig. G-43

Manhole Saddles

Complete with Roe's Patent Manhead,
Yoke, Bolt and Gasket

Bent to fit diameters 24" to 108"
advancing by 6"

Saddle Plate $\frac{5}{8}$ " thick for Single
Rivetting.

Size of opening 11" \times 15"

Each \$50.50

Also made with openings 10" \times 14"
and 12" \times 16" and in 3 thicknesses
 $\frac{5}{8}$ ", $\frac{3}{4}$ " and 1", for Single and
Double Rivetting.

Roe's Patent Manhead and Yoke

Best Open Hearth Steel Plate

Including Manhead 11" \times 15" Yoke, Rubber Gasket, and Bolt suitable for a 2 $\frac{1}{2}$ " overall flange.....	\$26.50
Yoke only.....	\$3.60

The Manhead is made in four sizes, to fit Manholes 12" \times 16",
11" \times 15", 10" \times 14", and 10" \times 15". Prices on application.

Forged Steel Boiler Flanges



Fig. G-44

Size of Pipe inches	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Diameter of Flange "	6	6	$6\frac{1}{2}$	7	8	$8\frac{1}{2}$	9
Thickness of Flange "	$\frac{5}{16}$	$\frac{5}{16}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$
Depth of Flange "	1	1	1	$1\frac{1}{4}$	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{1}{2}$
Price BENT or FLAT							
Plain \$	1.60	1.60	1.75	2.05	2.35	2.45	2.65
Threaded	1.70	1.80	1.95	2.25	2.50	2.60	2.80

Size of Pipe inche	4	5	6	8	10	12
Diameter of Flange "	10	$11\frac{1}{2}$	$12\frac{1}{2}$	15	$17\frac{1}{2}$	20
Thickness of Flange "	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{13}{16}$
Depth of Flange "	$1\frac{3}{4}$	2		$\frac{1}{2}$	$\frac{1}{2}$	3
Price BENT or FLAT						
Plain \$	3.35	4.75	5.70	11.40	21.00	26.00
Threaded	3.50	5.00	6.00	12.00	25.00	30.00

An extra charge is made for bending Flanges 7" and smaller to circles under 18" in diameter.

Special prices will be quoted for Flanges 8" and larger for circles under 36" in diameter.

An extra charge is made for Flanges bent to fit centre of Dished Heads or Spherical Surfaces.

Prices on application for Offset Boiler Flanges or Large Diameter Flanges.

Steel Boiler and Structural Rivets

Cone Head

Round Head

Countersunk Head

Sizes and Prices will be furnished on application.

Tinsmiths' Rivets



Fig. G-45

Size	8 oz.	10 oz.	12 oz.	14 oz.	1 lb.	1 $\frac{1}{4}$ lb.	1 $\frac{1}{2}$ lb.	1 $\frac{3}{4}$ lb.	2 lb.	2 $\frac{1}{2}$ lb.
Length, Inches	$\frac{5}{32}$	$\frac{11}{64}$	$\frac{3}{16}$	$\frac{3}{16}$	$\frac{13}{64}$	$\frac{7}{32}$	$\frac{15}{64}$	$\frac{1}{4}$	$\frac{17}{64}$	$\frac{9}{32}$
Diameter										
Wire Gauge	13 $\frac{1}{4}$	13	12 $\frac{1}{4}$	12	11 $\frac{3}{4}$	11	10 $\frac{1}{4}$	10	9 $\frac{1}{4}$	9
Price per										
1000—Black \$	0.32	0.36	0.41	0.45	0.48	0.54	0.62	0.67	0.72	0.83
Size	3 lb.	3 $\frac{1}{2}$ lb.	4 lb.	5 lb.	6 lb.	7 lb.	8 lb.	9 lb.	10 lb.	12 lb.
Length, Inches	$\frac{5}{16}$	$\frac{21}{64}$	$\frac{11}{32}$	$\frac{3}{8}$	$\frac{25}{64}$	$\frac{13}{32}$	$\frac{7}{16}$	$\frac{29}{64}$	$\frac{15}{32}$	$\frac{1}{2}$
Diameter										
Wire Gauge	8 $\frac{1}{4}$	8	7 $\frac{1}{4}$	6 $\frac{3}{4}$	6	5 $\frac{1}{4}$	4 $\frac{3}{4}$	4 $\frac{1}{4}$	4	3
Price per										
1000—Black \$	0.96	1.09	1.20	1.30	1.50	1.75	2.00	2.20	2.40	2.64

For Tinned Rivets add 0.20 per lb.



Clout Nails

Tinned Clout Nails

In 1 lb packages

Sizes Stocked: $\frac{5}{8}$ ", $\frac{3}{4}$ ", 1", 1 $\frac{1}{4}$ "

Copper Clout Nails

Sizes: $\frac{3}{8}$ ", $\frac{1}{2}$ ", $\frac{5}{8}$ ", $\frac{3}{4}$ ", $\frac{7}{8}$ ", 1"

Prices on application.

Fig. G-46

Galvanized Wire Roofing Nails Large Head

1" x No. 12 w. g.,
1 $\frac{1}{2}$ " x No. 11 w. g.,

1 $\frac{1}{8}$ " x No. 12 w. g.,
1 $\frac{3}{4}$ " x No. 10 w. g.,

1 $\frac{1}{4}$ " x No. 11 w. g.
2" x No. 10 w. g.

Wire

Bright and Annealed Steel Wire

Galvanized Steel Wire,

Coppered Steel Wire

Annealed Stovepipe Wire

Brass Wire,

Spring Brass Wire,

Copper Wire,

Prices on application.

“Streamline” Copper Pipe and Fittings

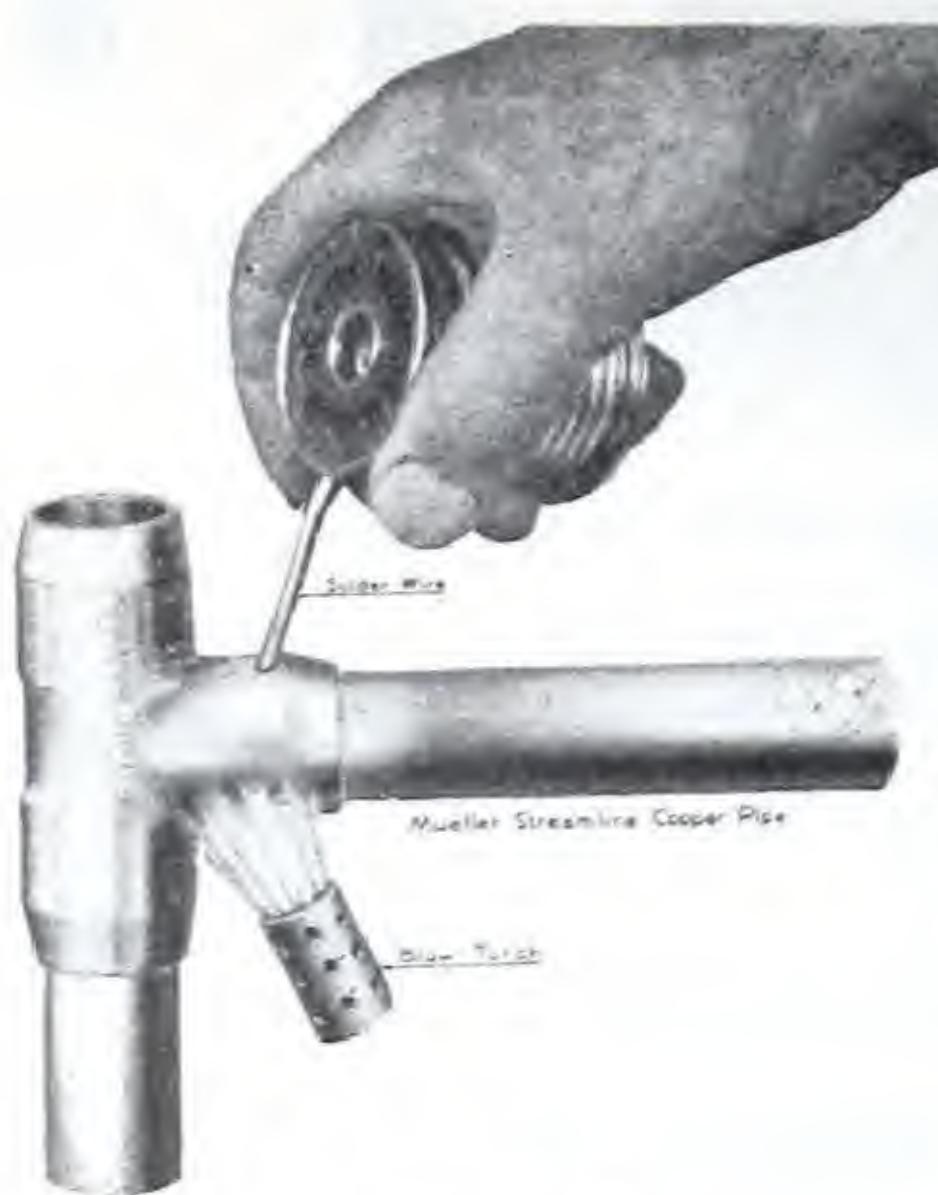


Fig. G-47.

Threadless Pipe

Patent Wire Solder Joints

Easy and inexpensive installation.

No waste or short ends.

No Rust or Corrosion.

Soft quality can be easily bent round columns, piers, corners, etc., without the use of elbows or other fittings.

Easy to disconnect and take down without loss of materials.

Old “Streamline” Pipe & Fittings at once again usable for new work.

Unions Supplied to Connect to Iron Pipe

“Streamline” Copper Pipe is made in five grades, as follows:—

STANDARD HARD for Hot & Cold Water, Air, etc. up to 200 lbs. work. pressure

HEAVY HARD “ “ “ “ “ 300 lbs. “ “

EXTRA HEAVY HARD “ “ “ “ “ 500 lbs. “ “

This Ex. Hy. grade can be bent after annealing with a blow torch.

HEAVY SOFT for Plumbing & Heating, Hot & Cold Water, Compressed Air and Vacuum Lines, and for Underground Work, up to 200 lbs. working pressure.

EXTRA HEAVY SOFT for same purposes as HEAVY SOFT up to 300 lbs. “

These two soft grades can be easily bent without annealing.

“Streamline” Copper Pipe is adaptable to

General Plumbing and Heating Installations; Paper Mills (for which special large size pipe and fittings are made); Electric Refrigerators; Waterworks and General Underground uses.

Sizes and Weights

Made in sizes $\frac{1}{4}$ " to 8" and in three different weights, according to conditions.

Full details and quotations furnished on request.

Cast Iron Water Pipe and Fittings



Fig. G-48

Thicknesses and Weights of Pipe (Approximate)

Nom. Int. Diam. inches.....	3	4	6	8	10	12	14	16
For 130 lbs. Pressure								
Thickness, Decimal Inch.....	.45	.48	.51	.56	.62	.68	.74	.80
Lbs. per lineal foot.....	17.1	23.3	35.8	52.1	70.8	91.7	116.7	143.8
For 86 lbs. Pressure								
Thickness, Decimal Inch.....	.42	.45	.48	.51	.57	.62	.66	.70
Lbs. per lineal foot.....	16.2	21.7	33.3	47.5	63.8	82.1	102.5	125.0
For 43 lbs. Pressure								
Thickness, Decimal Inch.....	.39	.42	.44	.46	.50	.54	.57	.60
Lbs. per lineal foot.....	14.5	20.0	30.8	42.9	57.1	72.5	89.6	108.3

Nom. Int. Diam. Inches	18	20	24	30	36	42	48
For 130 lbs. Pressure							
Thickness, Decimal Inch	.87	.92	1.04	1.20	1.36	1.54	1.71
Lbs. per lineal foot	175.0	208.3	279.2	400.0	545.8	716.7	908.3
For 86 lbs. Pressure							
Thickness, Decimal Inch	.75	.80	.89	1.03	1.15	1.28	1.42
Lbs. per lineal foot	150.0	175.0	233.3	333.3	454.2	591.7	750.0
For 43 lbs. Pressure							
Thickness, Decimal Inch	.64	.67	.76	.88	.99	1.10	1.26
Lbs. per lineal foot	129.2	150.0	204.2	291.7	391.7	512.5	666.7

Standard lengths 12 feet, exclusive of socket. All Pipes and Castings are coated inside and out.

REGULAR FITTINGS



Fig. G-49
Detail of Socket

Bends $\frac{1}{4}$ or 90°; $\frac{1}{8}$ or 45°;
 $\frac{1}{6}$ or $22\frac{1}{2}$ °; $\frac{1}{3}$ or $11\frac{1}{4}$ °; $\frac{1}{4}$ or $5\frac{1}{2}$ °;
 Crosses, Tees, Reducers, Y Branches.
 Offsets, Increases, Blow-off-Branches.
 Base Elbows, Sleeves, Caps, Plugs.

Cast Iron Pipe and Fittings can be supplied up to 350 lbs. pressure. Prices on application.

Standard Wrought Pipe

Black and Galvanized



Fig. G-50

All Weights and Dimensions are nominal

The permissible variation in weight is 5% above and 5% below.

Butt Welded

Size Inches	Price Per foot.	Weight Per foot. Pounds	Thickness. Inches	External Diameter. Inches	Internal Diameter. Inches	Threads Per inch of Screw
1/8	\$0.05	0.245	.068	0.405	0.269	27
1/4	0.06	0.425	.088	0.540	0.364	18
3/8	0.06	0.568	.091	0.675	0.493	18
1/2	0.08	0.852	.109	0.840	0.622	14
5/8	0.11	1.134	.113	1.050	0.824	14
1	0.17	1.684	.133	1.315	1.049	11 1/2
1 1/8	0.23	2.281	.140	1.660	1.380	11 1/2
1 1/4	0.27	2.731	.145	1.900	1.610	11 1/2
2	0.37	3.678	.154	2.375	2.067	11 1/2
2 1/2	0.58	5.819	.203	2.875	2.469	8
3	0.76	7.616	.216	3.500	3.068	8
3 1/2	0.92	9.202	.226	4.000	3.548	8
4	1.09	10.889	.237	4.500	4.026	8

Lap Welded

1	\$0.17	1.684	.133	1.315	1.049	11 1/2
1 1/8	0.23	2.281	.140	1.660	1.380	11 1/2
1 1/4	0.27	2.731	.145	1.900	1.610	11 1/2
2	0.37	3.678	.154	2.375	2.067	11 1/2
2 1/2	0.58	5.819	.203	2.875	2.469	8
3	0.76	7.616	.216	3.500	3.068	8
3 1/2	0.92	9.202	.226	4.000	3.548	8
4	1.09	10.889	.237	4.500	4.026	8
5	1.48	14.810	.258	5.563	5.047	8
6	1.92	19.185	.280	6.625	6.065	8
8	2.50	25.00	.277	8.625	8.071	8
8	2.88	28.809	.322	8.625	7.981	8
10	3.20	32.00	.279	10.750	10.192	8
10	4.12	41.132	.365	10.75	10.020	8
12	4.50	45.00	.330	12.75	12.09	8
12	5.07	50.706	.375	12.75	12.00	8

AVERAGE LENGTHS, $\frac{1}{8}''$, $\frac{1}{4}''$ and $\frac{3}{8}''$ about 15-16 ft.; $\frac{1}{2}''$ and larger about 20 ft.

BUNDLES contain $\frac{1}{8}''$ 40 $\frac{1}{4}''$ 20 $\frac{3}{8}''$ 15 $\frac{1}{2}''$ 10 $\frac{3}{4}''$ 7 $1''$ 5 $1\frac{1}{4}''$ 3 $1\frac{1}{2}''$ 3 Lgths.
2" and larger not bundled.

Note. — All pipe over 2" is supplied with thread protectors.

In sizes where more than one weight is listed the lighter weight will be sent unless otherwise ordered.

"GENUINE" WROUGHT IRON PIPE and COPPER BEARING PIPE can be supplied. Prices on application.

Extra Strong Wrought Pipe

Black and Galvanized



Fig. G-51

Plain Ends. All Weights and Dimensions are nominal

The permissible variation in weight is 5% above and 5% below.

Size Inches	Price Per Foot	Weight Per Foot Pounds	Thickness Inches	External Diameter Inches	Internal Diameter Inches
$\frac{1}{8}$	\$0.12	.31	.095	.405	.215
$\frac{1}{4}$	0.07 $\frac{1}{2}$	.53	.119	.540	.302
$\frac{3}{8}$	0.07 $\frac{1}{2}$	.74	.126	.675	.423
$\frac{1}{2}$	0.11	1.09	.147	.840	.546
$\frac{3}{4}$	0.15	1.47	.154	1.05	.742
1	0.22	2.17	.179	1.31	.957
$1\frac{1}{4}$	0.30	3.00	.191	1.66	1.28
$1\frac{1}{2}$	0.36 $\frac{1}{2}$	3.63	.200	1.90	1.50
2	0.50 $\frac{1}{2}$	5.02	.218	2.37	1.94
$2\frac{1}{2}$	0.77	7.66	.276	2.87	2.32
3	1.03	10.25	.300	3.50	2.90
$3\frac{1}{2}$	1.25	12.50	.318	4.00	3.36
4	1.50	14.98	.337	4.50	3.83
5	2.08	20.78	.375	5.56	4.81
6	2.86	28.57	.432	6.62	5.67
8	4.34	43.39	.500	8.62	7.62
10	5.48	54.74	.500	10.75	9.75
12	6.55	65.41	.500	12.75	11.75

Extra Strong Pipe will be shipped in random lengths and with plain ends unless otherwise ordered. For Pipe furnished with threads only or with threads and couplings, an extra charge will be made, above plain ends.

For cut lengths an extra charge is made, above random.

**"GENUINE" WROUGHT IRON PIPE and COPPER BEARING PIPE
can be supplied. Prices on application.**

For " Pipe Trade Customs " see page 29.

Double Extra Strong Wrought Pipe
Black and Galvanized



Fig. G-52

Plain Ends. All Weights and Dimensions are nominal

The permissible variation in weight is 10% above and 10% below.

Size Inches	Price Per Foot	Weight Per Foot Pounds	Thickness Inches	External Diameter Inches	Internal Diameter Inches
$\frac{1}{2}$ $\frac{3}{4}$ 1	.32	1.71	.294	.84	.25
	.35	2.44	.308	1.05	.43
	.37	3.66	.358	1.31	.60
$1\frac{1}{4}$ $1\frac{1}{2}$ 2	$.52\frac{1}{2}$	5.21	.382	1.66	.90
	.65	6.41	.40	1.90	1.10
	.91	9.03	.436	2.37	1.50
$2\frac{1}{2}$ 3 $3\frac{1}{2}$	1.37	13.70	.552	2.87	1.77
	1.86	18.58	.60	3.50	2.30
	2.30	22.85	.636	4.00	2.73
4 5 6 8	2.76	27.54	.674	4.50	3.15
	3.86	38.55	.75	5.56	4.06
	5.32	53.16	.864	6.62	4.90
	7.25	72.42	.875	8.62	6.87

Double Extra Strong Pipe will be shipped in random lengths and with plain ends unless otherwise ordered. For Pipe furnished with threads only or with threads and couplings, an extra charge will be made, above plain ends.

For cut lengths an extra charge is made, above random.

"GENUINE" WROUGHT IRON PIPE and COPPER BEARING PIPE
can be supplied. Prices on application.

For "Pipe Trade Customs" see page 29.

THOMAS ROBERTSON & COMPANY, LIMITED

PIPE TRADE CUSTOMS

Every piece of Pipe, Tubing, Casing, Boiler Tube, Line Pipe, etc., is carefully tested, but as it is impossible to always detect imperfections, the only guarantee given is to replace such goods as prove defective. Under no circumstances are we responsible for any damages beyond the price of the goods. No charge for labor or expense required to repair defective goods, or damages occasioned by them, will be allowed. If the goods are defective the measure of damage is the price of the defective pieces.

Measurement of Pipe. Mill Practice

On orders calling for Standard Pipes sizes $\frac{1}{8}$ " to 12" inclusive, and which specify quantity in lineal feet, it is understood that random lengths fitted with threads both ends and coupling one end will be shipped, and the measurement is charged from end to end, that is overall including coupling.

If cut lengths of any size are ordered, customers must state whether plain ends, threads only, or threads and couplings are required. For cut lengths, an extra charge is made.

Couplings are charged separately, whether screwed on the pipe or shipped loose. Unless otherwise ordered, the Pipe is cut to the lengths specified for plain ends or threaded ends.

Prices for Coated Pipe will be quoted on application.

“Victaulic” Couplings

for Wrought and Cast Iron Pipe.

“Victaulic” Couplings are flexible and are provided for all pipe sizes from $\frac{3}{4}$ inch up for steel, wrought iron and cast iron pipe — for all pressures.

“Victaulic” Couplings take the place of screwed joints, flanged joints, welded and bell and spigot joints. They insure a line of great strength and flexibility — installed faster and cheaper than any other type of line. They make special swing joints and expansion bends unnecessary.



Fig. G-53



Fig. G-54

“Victaulic” coupling consists of two metal half housings which are clamped together over an internally expanded rubber ring which makes it leak-proof. The pipe is grooved near the end so that the coupling firmly grips the pipe. “Victaulic” grooved pipe is furnished as standard by all pipe mills and foundries.

Prices on application.

Standard Wrought Pipe Cut to Sketch

Diagram Showing Screwed Valve and Fittings

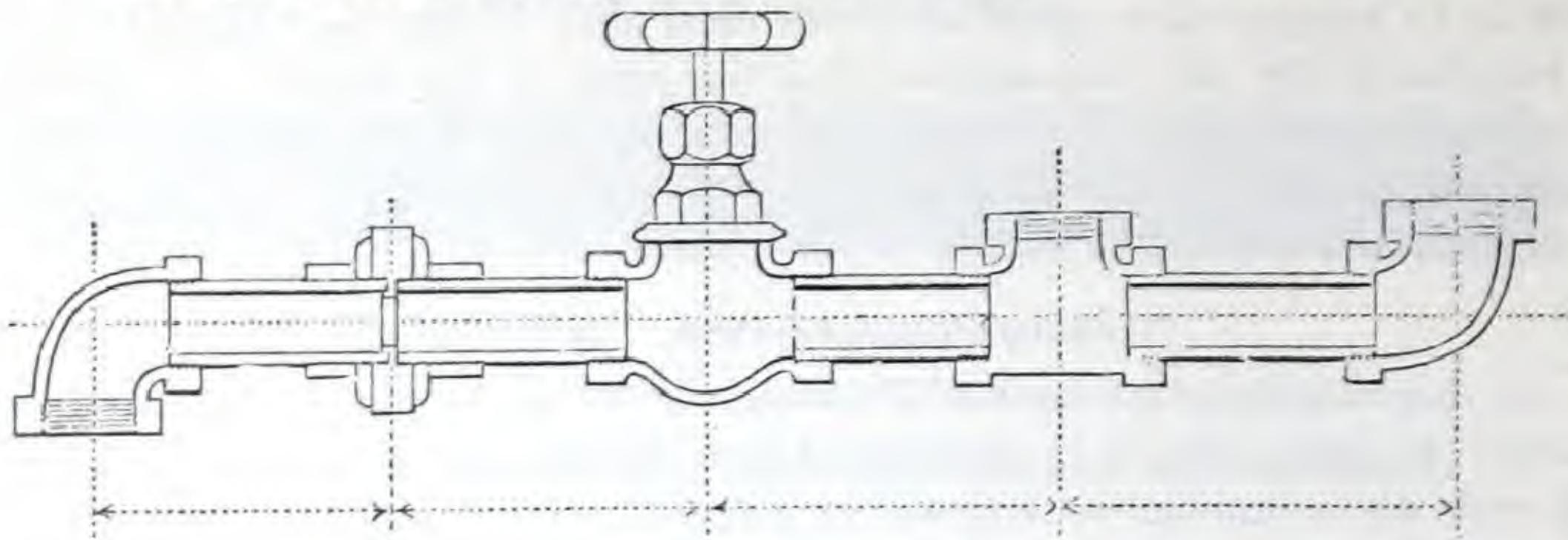


Fig. G-55

Diagram Showing Flanged Valve and Fittings

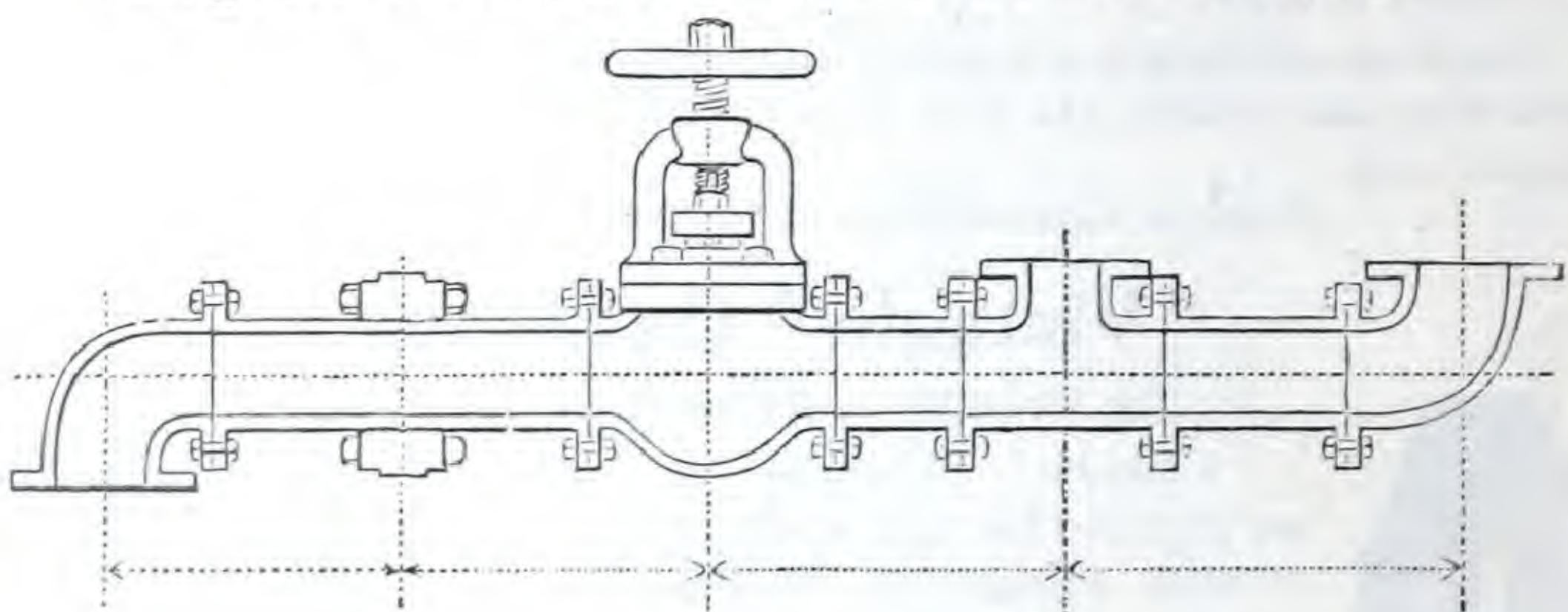


Fig. G-56

In laying out work of this kind great care should be taken in making Sketches. All measurements should be given Centre to Centre as shown in above diagrams.

Bevelled Pipe for Welded Joints



Fig. G-57

All Wrought Pipe can be supplied with bevelled ends for Welding, without extra cost.

Weldless Steel Pipe

Black and Galvanized

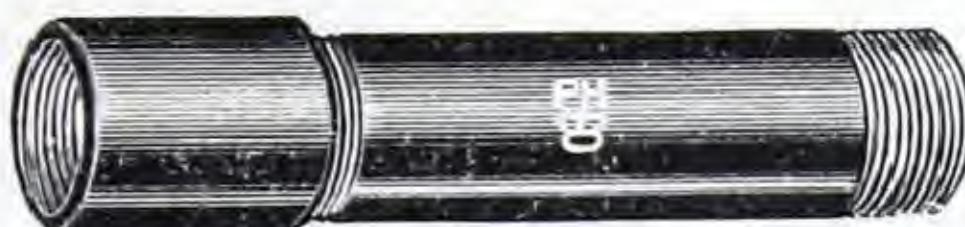


Fig. G-58

Size . . . inches	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	4	5	6	8
Standard, per ft	.17	.23	.27 $\frac{1}{2}$	.37	.53 $\frac{1}{2}$	.76 $\frac{1}{2}$	.92	1.09	1.48	1.92	2.50
Extra Strong . . . "	.22	.30	.36 $\frac{1}{2}$	.50 $\frac{1}{2}$	.77	1.03	1.25	1.50	2.08	2.86	4.34

This Pipe is drawn from a Solid Steel Billet. It is made in standard sizes. Compared with Welded Pipe it has greater tensile strength, higher bursting pressure, no welds, no leaks, and cannot split when cutting or threading.

Pipe Savers

To protect the threaded end against the action of Steam, Water and Acids.

Pipe Savers are seamless tubular liners drawn from a special alloy which resists cutting action and is unaffected by steam or common acids.



Fig. G-59

1. Pipe-Saver Flange, which threads into the fitting with the pipe and holds the Pipe-Saver permanently in place.
2. Patented Bulge. When Pipe-Saver is forced into pipe, bulge is flattened, forcing tapered end of Pipe-Saver tight against pipe.
3. End of Pipe-Saver, tapered to fit pipe over or under standard diameter.

Pipe size, inches .	$\frac{3}{4}$	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$	3	4	6	8
Regular Alloy, each	.26	.30	.36	.40	.50	.70	1.00	1.60	3.50	5.50
Chrome Nickel . . . "	.40	.48	.52	.60	.80	1.00	1.40	2.00	4.00	6.50

These list prices also apply to Pipe-Savers for Extra Heavy Pipe, 1 $\frac{1}{4}$ " to 6".

Method of fixing: Insert Pipe-Saver into the reamed pipe end. Then drive it snugly into place by holding a block of wood against it and striking this with a hammer.

Pipe Bends

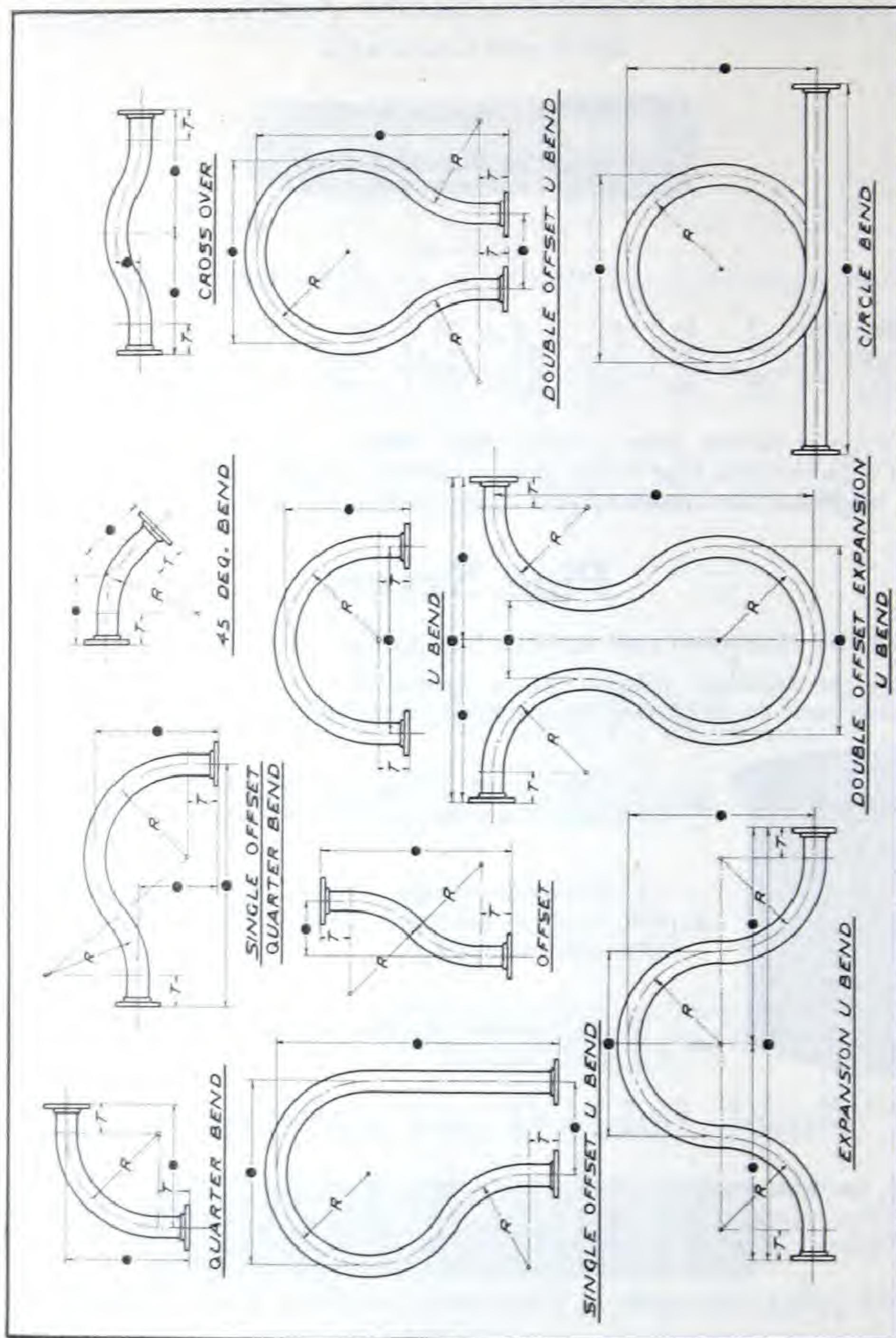


Fig. G-60

Standard dimensions on next page.

THOMAS ROBERTSON & COMPANY, LIMITED

Pipe Bends

Size of Pipe	R. Minimum Advisable Radius of Bends Inches	Shortest Radius to which Pipe can be bent	T. Minimum Length of Tangent or straight parts of bends	Lineal Feet of Pipe Including Tangents		
				Screwed and Shrunk Joints Inches	Extra Strong Pipe Inches	Standard Pipe Inches
33	2 $\frac{1}{2}$	12 $\frac{1}{2}$	10	4	7	4
	3	15	12	4	8	5
	3 $\frac{1}{2}$	17 $\frac{1}{2}$	14	5	10	5
	4	20	16	5	12	5
	5	25	20	6	15	6
	6	30	26	7	20	7
	8	40	34	8	28	9
	10	50	45	10	40	12
	12	60	54	14	50	14

Size of Pipe	R. Minimum Advisable Radius of Bends Inches	Shortest Radius to which Pipe can be bent	T. Minimum Length of Tangent or straight parts of bends	Lineal Feet of Pipe Including Tangents		
				Standard Pipe Inches	Extra Strong Pipe Inches	Screwed and Shrunk Joints Inches
33	2 $\frac{1}{2}$	12 $\frac{1}{2}$	10	4	7	4
	3	15	12	4	8	5
	3 $\frac{1}{2}$	17 $\frac{1}{2}$	14	5	10	5
	4	20	16	5	12	5
	5	25	20	6	15	6
	6	30	26	7	20	7
	8	40	34	8	28	9
	10	50	45	10	40	12
	12	60	54	14	50	14

Full dimension sketch or blue-print should accompany all enquiries or orders for bends.

Drawings submitted should include dimensions R.T. and dimensions marked ● where necessary, and any other variations from dimensions as given in the above table.

Lineal feet of pipe used in bends will vary according to dimensions varying from above table.

Every Pipe Bend is carefully tested under hydraulic pressure before shipment.

Large O.D. Wrought Pipe

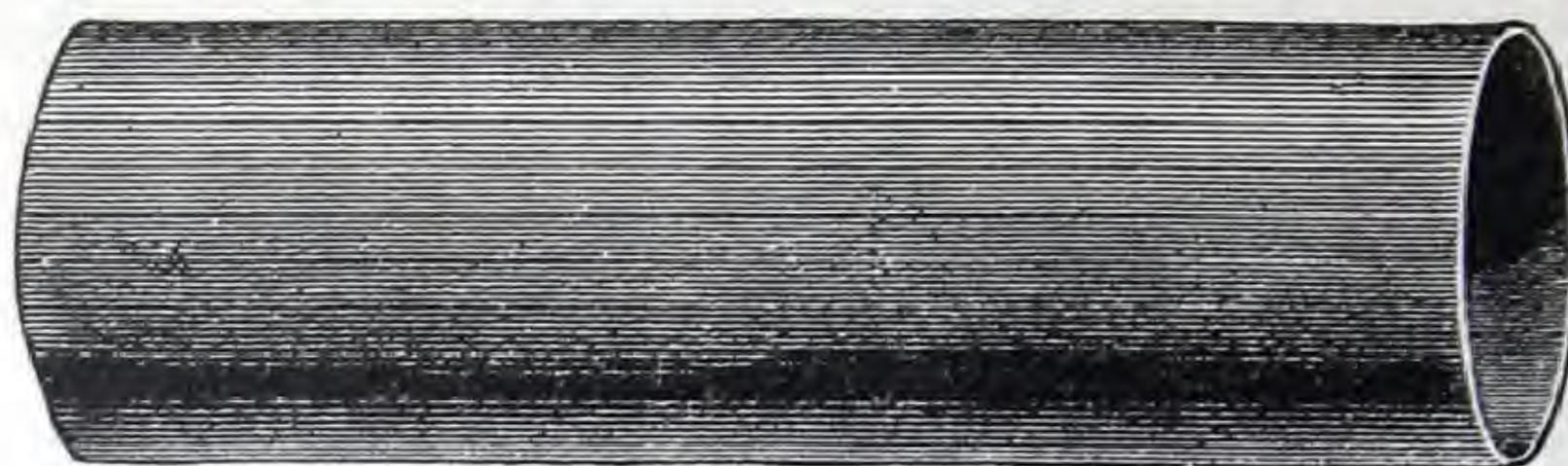


Fig. G-61

Price per Foot, Plain Ends

Thickness inches	OUTSIDE DIAMETER, INCHES					
	14	15	16	17	18	20
$\frac{1}{4}$	\$3.68	3.94	4.21	4.48	4.74	...
$\frac{5}{16}$	4.57	4.91	5.24	5.57	5.91	6.58
$\frac{3}{8}$	5.46	5.86	6.26	6.66	7.06	7.86
$\frac{7}{16}$	6.34	6.81	7.28	7.74	8.21	9.51
$\frac{1}{2}$	7.21	7.75	8.28	8.82	9.35	10.42
$\frac{9}{16}$	8.08	8.68	9.28	9.88	10.48	11.68
$\frac{5}{8}$	8.93	9.60	10.27	10.94	11.60	12.94
$\frac{11}{16}$	9.78	10.51	11.25	11.98	12.72	14.19
$\frac{3}{4}$	10.62	11.42	12.22	13.02	13.82	15.42
$\frac{7}{8}$	12.27	13.20	14.14	15.07	16.01	17.88
1	13.89	14.96	16.03	17.09	18.16	20.30
$1\frac{1}{8}$	15.47	16.68	17.88	19.08	20.28	22.68
Thickness inches	OUTSIDE DIAMETER, INCHES					
	21	22	24	26	28	30
$\frac{5}{16}$	\$6.91	7.24	...	...	...	...
$\frac{3}{8}$	8.27	8.67	9.47	10.27	...	...
$\frac{7}{16}$	9.61	10.08	11.01	11.95	12.88	13.82
$\frac{1}{2}$	10.95	11.49	12.55	13.62	14.69	15.76
$\frac{9}{16}$	12.28	12.88	14.09	15.29	16.49	17.69
$\frac{5}{8}$	13.61	14.27	15.61	16.94	18.28	19.61
$\frac{11}{16}$	14.92	15.65	17.12	18.59	20.06	21.53
$\frac{3}{4}$	16.23	17.03	18.63	20.23	21.83	23.43

Prices for thicknesses $\frac{7}{8}$ ", 1" and $1\frac{1}{8}$ " on application.

Large O. D. Wrought Pipe *(continued)*

Approximate Weight per Foot in Pounds

Thickness	SIZE O.D.	The permissible variation in weight is 10 per cent, above and 10 per cent, below.							
		$\frac{1}{4}''$	$\frac{5}{16}''$	$\frac{3}{8}''$	$\frac{7}{16}''$	$\frac{1}{2}''$	$\frac{9}{16}''$	$\frac{5}{8}''$	$\frac{11}{16}''$
14"	36.71	45.68	54.57	63.37	72.09	80.73	89.28	97.75	106.13
15"	39.38	49.02	58.57	68.04	77.43	86.73	95.95	105.09	114.14
16"	42.05	52.36	62.58	72.72	82.77	92.74	102.63	112.43	122.15
17"	44.72	55.70	66.58	77.39	88.11	98.75	109.30	119.78	130.16
18"	47.39	59.03	70.59	82.06	93.45	104.76	115.98	127.12	138.17
20"	... . . . .	65.71	78.60	91.41	104.13	116.77	129.33	141.80	154.19
21"	... . . . .	69.04	82.60	96.08	109.47	122.78	136.00	149.15	162.20
22"	... . . . .	72.38	86.61	100.75	114.81	128.79	142.68	156.49	170.21
24"	... . . . .	94.62	110.10	125.49	140.80	156.03	171.17	186.23	... . . . .
26"	... . . . .	102.63	119.44	136.17	152.82	169.38	185.86	202.25	... . . . .
28"	... . . . .	... . . . .	128.79	146.85	164.83	182.73	200.54	218.27	... . . . .
30"	... . . . .	... . . . .	138.13	157.53	176.85	196.08	215.23	234.30	... . . . .

Thickness	SIZE O.D.	Test Pressure in Pounds							
		$\frac{1}{4}''$	$\frac{5}{16}''$	$\frac{3}{8}''$	$\frac{7}{16}''$	$\frac{1}{2}''$	$\frac{9}{16}''$	$\frac{5}{8}''$	$\frac{11}{16}''$
14"	500	650	750	900	1000	1150	1250	1275	1300
15"	500	600	700	800	950	1100	1200	1250	1300
16"	450	550	700	800	950	1100	1200	1250	1300
17"	400	500	650	750	850	950	1100	1200	1300
18"	400	500	600	700	800	950	1050	1150	1200
20"	... . . . .	450	500	650	750	800	950	1000	1100
21"	... . . . .	450	500	600	700	800	900	950	1000
22"	... . . . .	450	500	600	650	750	850	900	1000
24"	... . . . .	... . . . .	500	550	625	700	800	850	950
26"	... . . . .	... . . . .	450	500	575	650	725	800	850
28"	... . . . .	... . . . .	... . . . .	475	550	600	675	750	800
30"	... . . . .	... . . . .	... . . . .	450	500	550	625	700	750

We can thread and couple up to 20 inches. This pipe will be shipped in random lengths, plain ends, unless otherwise ordered. For cut lengths an extra charge above random will be made. For threaded pipe an extra charge above plain end will be made.

Steel Bell and Spigot pipe

For use in Water Works, Irrigation Systems, Mines and Mining,
Natural and Artificial Gas Transmission Lines, Engineering work,
and wherever a lead joint is suitable

DIPPED



Fig. G-62

Nominal Weights and Dimensions

Actual Outside Diam. ins.	Nominal Inside Diam. ins.	Greatest Diam. over Band, ins.	Length of Spigot in Joint, ins.	Weight per ft. in lbs. Plain Ends	Weight of Lead in pounds
3 $\frac{1}{2}$	3	4.532	2.25	3.94	2.11
3 $\frac{1}{2}$	3	4.554	2.25	4.33	2.11
3 $\frac{1}{2}$	3	4.582	2.25	4.82	2.11
4 $\frac{1}{2}$	4	5.740	2.31	5.62	3.15
4 $\frac{1}{2}$	4	5.768	2.31	6.25	3.15
4 $\frac{1}{2}$	4	5.814	2.31	7.28	3.15
6 $\frac{5}{8}$	6	8.057	2.50	9.29	5.29
6 $\frac{5}{8}$	6	8.085	2.50	10.23	5.29
6 $\frac{5}{8}$	6	8.143	2.50	12.18	5.29
8 $\frac{5}{8}$	8	10.285	2.78	14.91	8.43
8 $\frac{5}{8}$	8	10.315	2.78	16.24	8.43
8 $\frac{5}{8}$	8	10.387	2.78	19.40	8.43
10 $\frac{3}{4}$	10	12.620	2.85	21.21	11.49
10 $\frac{3}{4}$	10	12.684	2.85	24.75	11.49
10 $\frac{3}{4}$	10	12.794	2.85	30.77	11.49

Prices on application.

Fittings can be Supplied as follows:

TEES and CROSSES, straight or reducing; REDUCERS; PLUGS; CAPS; ELBOWS, 90°, 66°, 45°, and 22½°; CROTCHES; Y's; FLANGES; and CLAMPS; also Special Fittings to connect with Cast Iron Lines

Steel Bell and Spigot Pipe (*continued*)

DIPPED AND WRAPPED



Fig. G-63

SPECIAL FEATURES AND ADVANTAGES

This pipe is made from Soft Welding Steel, by the Lapweld process, and dipped in a hot bath of special bituminous compound. Wrapped pipe is afterwards covered spirally with special Jute fabric, previously saturated in the hot compound, and afterwards coated. If required the final coatings can be galvanized, or made with special paint to suit any local conditions.

The pipe is comparatively light (economising very considerably the transportation charges and handling expenses) and is of great ductility and uniformity, ensuring complete resistance to pressure or shock. The testing pressure is more than twice that applied to Cast Iron Pipe. The lengths are about 20 ft., reducing the number of Lead Joints (as compared with Cast Iron Pipe) to 280 as against 440 per mile. Reckoning also the reduced quantity of Lead required for these joints this means a saving of about two tons of Lead per mile, and the proportionate reduction in risks of leaking joints, as well as saving the expense of handling and local transportation of 160 lengths of pipe per mile. The weight of a line of 8" pipe is only one quarter that of Cast Iron pipe resisting an equal pressure, whilst the tensile strength is three times greater, and the elastic limit is very much higher. The joint is continuous, straight, and smooth inside, reducing loss by friction to a minimum, whilst variations in alignment and grade are quite possible, even if one end of a 20 ft. length of pipe is 3 to 4 feet out of alignment. By using short lengths considerable variations in alignment are possible, eliminating the necessity for special castings, etc. Short curves can be made in the pipe itself when necessary, without opening at the weld or otherwise deforming the pipe, owing to the high quality of the material and the excellent methods of manufacture.

The special coating and covering protect the pipe from underground corrosion or electrolysis in the most satisfactory manner.

Spiral Rivetted Pressure Pipe

For Hydro-Electric, Mining, Pulp & Paper, Oil, Exhaust, etc.

One-third
the weight
of Wrought
Steel Pipe



Fig. G-64

One-fifth
the weight
of Cast
Iron Pipe

GALVANIZED coating for Exhaust Steam, Suction, or Vacuum Work, Paper Mills, Compressed Air Hot Gases, Chemicals, etc.

ASPHALTED coating for Water Supply, Pumping Mains, Penstocks, Dredging, Mining, Sand Pumping, etc.

JOINTS of various kinds can be supplied to suit the work: Forged Steel Flanges and Bolted Joints, Flexible Ball Joints; Slip Joints; Expansion Joints.

Inside Diam. inches.....	3	4	5	6	6	8	8	10	10
Thickness B. G.....	18	16	16	16	14	16	14	16	14
Approx. Bursting Pressure Pounds per Square inch	2000	1875	1500	1250	1560	935	1170	750	935
Approx. Wt. Pounds per ft.	2.3	3.7	4.5	5.3	6.6	7.1	8.8	8.8	11.0

Inside Diam. Inches.....	12	12	14	14	16	16	18	18	20	20
Thickness B. G.....	16	14	14	12	14	12	14	12	14	12
Approx. Bursting Pressure Pounds per Square inch	625	780	670	940	585	820	520	730	470	660
Approx. Wt. Pounds per ft.	10.6	13.0	15.9	22.2	18.1	25.2	19.9	27.6	22.1	30.6

Galvanized Pipe supplied any length up to 20 ft. Asphalted any length up to 40 ft.

Prices quoted on application.

Toncan Iron Pipe, Lock-seam Spiral Weld

“TONCAN IRON” is an alloy of Iron, Copper and Molybdenum

Resists Rust and Corrosion. Smooth interior, minimum friction.

Light weight, reducing freight and handling costs.

Black, Asphalted or Galvanized. In 20 ft. lengths, or specials up to 40 ft. Supplied in diameters 6" to 24", and for Dresser or Victaulic Couplings.

When asking for Estimates please specify **Quantity** in lineal feet, **Diameter** inside, **Purpose** for which Piping will be used, and **Material** to be conveyed, **Maximum** working pressure and whether Pump or Gravity, also **Local Conditions**. If Piping is going under ground state character of soil.

Wrought Iron Fittings

COUPLING
Standard and Extra Heavy



Fig. G-65

HYDRAULIC RECESSED
COUPLING, Extra Heavy

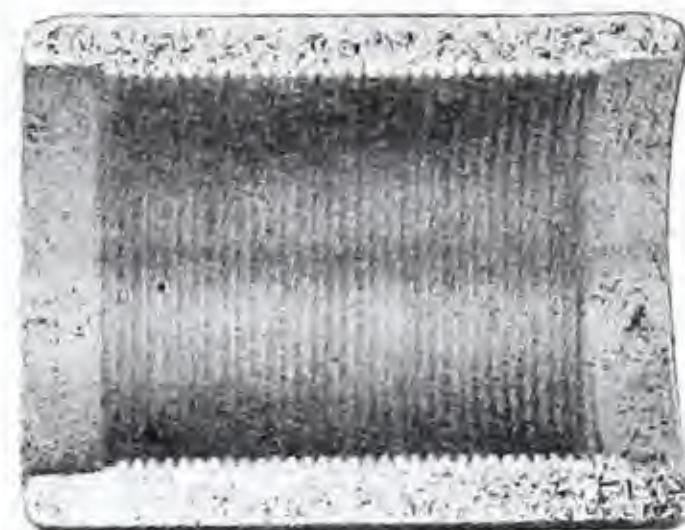


Fig. G-66

Fig. G-65 STANDARD COUPLING

Size	inches	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Black	each	\$0.05	0.05	0.06	0.07	0.10	0.13	0.17	0.21	0.28
Galvanized	"	0.06	0.06	0.08	0.10	0.13	0.18	0.25	0.32	0.40

Size	inches	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	5	6	8	10	12
Black	each	\$0.40	0.60	0.80	1.00	1.65	2.40	4.25	7.50	10.00
Galvanized	"	0.55	0.80	1.05	1.40	2.25	3.25	5.50	9.75	13.65

Fig. G-65 EXTRA HEAVY

Size	inches	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Black	each	\$0.12	0.14	0.20	0.26	0.34	0.42	0.56	0.80	1.20
Galvanized	"	0.16	0.20	0.26	0.36	0.50	0.64	0.80	1.10	1.60
Black, Right and Left	"	0.16	0.22	0.30	0.40	0.50	0.60	1.00	1.70	2.40

Fig. G-66 RECESSED, Extra Heavy

Size	inches	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Black	each	\$0.25	0.25	0.30	0.35	0.45	0.55	0.70	0.95	1.40
Galvanized	"	0.30	0.30	0.35	0.40	0.55	0.70	0.90	1.20	1.70

For Reducing Couplings see page 63 (Standard C.I.)
and page 81 (Extra Heavy C.I.)

THOMAS ROBERTSON & COMPANY, LIMITED



Fig. G-67 — Close

Wrought Nipples



Fig. G-68 — Short (or Shoulder)

BLACK — RIGHT HAND

Close	Short	Length, Inches					Size Inches	Prices		Prices of Extra Long Nipples								
		Long						Close or Short	Long	4	5	6	7	8	9	10	11	12
$\frac{3}{4}$	$\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	$\frac{1}{8}$	.04	.06	.07	.08	.10	.12	.14	.15	.17	.18	.19
$\frac{7}{8}$	$\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	$\frac{1}{4}$	.04	.06	.07	.08	.10	.12	.14	.15	.17	.18	.19
1	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	$\frac{3}{8}$	.04	.06	.07	.08	.10	.12	.14	.15	.17	.18	.19
$1\frac{1}{8}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	$\frac{1}{2}$	.05	.07	.08	.10	.12	.14	.16	.18	.20	.22	.23
$1\frac{3}{8}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$\frac{3}{4}$	.06	.09	...	.11	.13	.17	.18	.20	.22	.24	.26
$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	1	.08	.13	...	.15	.18	.23	.25	.28	.31	.34	.36
$1\frac{5}{8}$	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	$1\frac{1}{4}$	.11	.17	...	.20	.24	.29	.33	.36	.40	.44	.47
$1\frac{3}{4}$	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	$1\frac{1}{2}$	.13	.20	...	.25	.29	.36	.40	.45	.50	.54	.59
2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	2	.18	.27	...	.32	.38	.50	.54	.59	.65	.72	.77
$2\frac{1}{8}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5	$2\frac{1}{2}$	.39	.59	...	...	.68	.90	.97	1.06	1.17	1.26	1.35
$2\frac{3}{8}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5	3	.48	.72	...	...	.85	1.08	1.20	1.33	1.45	1.58	1.70
$2\frac{5}{8}$	4	$4\frac{1}{2}$	5	$5\frac{1}{2}$	6	$3\frac{1}{2}$	.75	1.05	...	...	...	1.30	1.45	1.60	1.75	1.90	2.05
$2\frac{7}{8}$	4	$4\frac{1}{2}$	5	$5\frac{1}{2}$	6	4	.85	1.20	...	...	...	1.52	1.69	1.87	2.05	2.22	2.40
3	$4\frac{1}{2}$	5	$5\frac{1}{2}$	6	$6\frac{1}{2}$	5	1.55	2.45	...	...	...	2.58	2.83	3.10	3.35	3.60	3.85
$3\frac{1}{8}$	$4\frac{1}{2}$	5	$5\frac{1}{2}$	6	$6\frac{1}{2}$	6	1.85	2.90	...	...	...	3.05	3.35	3.70	4.00	4.30	4.65
$3\frac{1}{2}$	5	6	...	...	...	8	3.55	4.05	...	...	...	4.55	5.05	5.50	6.00	6.50	7.00
$3\frac{3}{8}$	5	8	...	...	...	10	6.75	8.25	...	...	...	8.90	9.70	10.40	11.15	12.70	13.65
4	6	8	...	...	...	12	8.00	10.00	...	...	...	10.80	11.75	12.70	13.65	14.60	15.50

GALVANIZED — RIGHT HAND

Close	Short	Length, Inches					Size Inches	Prices		Prices of Extra Long Nipples								
		Long						Close or Short	Long	4	5	6	7	8	9	10	11	12
$\frac{3}{4}$	$\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	$\frac{1}{8}$	.06	.11	.12	.15	.17	.21	.24	.26	.29	.31	.34
$\frac{7}{8}$	$\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	$\frac{1}{4}$	.06	.11	.12	.15	.17	.21	.24	.26	.29	.31	.34
1	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	$\frac{3}{8}$	.06	.11	.12	.15	.17	.21	.24	.26	.29	.31	.34
$1\frac{1}{8}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	$\frac{1}{2}$	.06	.11	.13	.16	.18	.23	.26	.28	.31	.33	.36
$1\frac{3}{8}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$\frac{3}{4}$	.08	.14	...	.18	.21	.26	.29	.32	.35	.38	.41
$1\frac{1}{2}$	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	1	1	.11	.19	...	.24	.28	.34	.38	.42	.47	.51	.55
$1\frac{5}{8}$	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	$1\frac{1}{4}$	.17	.29	...	.32	.38	.45	.51	.57	.63	.69	.75
$1\frac{3}{4}$	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	$1\frac{1}{2}$	.21	.35	...	.39	.46	.55	.63	.70	.77	.84	.91
2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	2	.27	.47	...	.52	.61	.74	.83	.93	1.03	1.13	1.23
$2\frac{1}{8}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5	$2\frac{1}{2}$	.56	.86	...	1.00	1.26	1.41	1.56	1.71	1.86	2.01	2.16
$2\frac{3}{8}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5	3	.70	1.10	...	1.30	1.60	1.80	2.00	2.20	2.40	2.60	2.80	
$2\frac{5}{8}$	4	$4\frac{1}{2}$	5	$5\frac{1}{2}$	6	$3\frac{1}{2}$	1.20	1.70	...	...	2.10	2.35	2.60	2.85	3.15	3.40	3.60
$2\frac{7}{8}$	4	$4\frac{1}{2}$	5	$5\frac{1}{2}$	6	4	1.35	1.87	...	...	2.30	2.60	2.90	3.20	3.50	3.80	4.10
3	$4\frac{1}{2}$	5	$5\frac{1}{2}$	6	$6\frac{1}{2}$	5	2.30	3.15	...	...	3.75	4.20	4.60	5.00	5.40	5.85	6.20
$3\frac{1}{8}$	$4\frac{1}{2}$	5	$5\frac{1}{2}$	6	$6\frac{1}{2}$	6	2.80	4.25	...	...	4.50	5.00	5.55	6.05	6.60	7.15	7.60
$3\frac{3}{8}$	5	6	...	...	...	8	5.00	5.80	...	...	6.65	7.50	8.35	9.25	10.10	10.95	11.80

Wrought



Nipples
(continued)

Fig. G-69—Long (or Space)

BLACK—RIGHT AND LEFT

		Length, Inches					Size Inches	Prices		Prices of Extra Long Nipples								
Close	Short	Long			Close or Short	Long		4	5	6	7	8	9	10	11	12		
1	1	2	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	.05	.08	.09	.11	.13	.16	.18	.20	.23	.25	.27	
1	1	2	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	.05	.08	.09	.11	.13	.16	.18	.20	.23	.25	.27	
1	1	2	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	.07	.10	.11	.13	.16	.18	.21	.24	.27	.29	.31	
1	2	2	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	.08	.12	.....	.15	.17	.23	.25	.27	.29	.32	.35
1	2	2	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	.11	.18	.....	.20	.24	.31	.33	.37	.41	.45	.48
1	2	3	3 $\frac{1}{2}$	4	4 $\frac{1}{2}$	.15	.23	.....	.27	.32	.39	.45	.50	.55	.60	.65
1 $\frac{1}{2}$	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	4	4 $\frac{1}{2}$	1 $\frac{1}{2}$.18	.2734	.39	.48	.52	.60	.67	.72	.80	
2	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	4	4 $\frac{1}{2}$	2	.24	.3643	.51	.67	.72	.80	.87	.96	1.03	
2	3	3 $\frac{1}{2}$	4	4 $\frac{1}{2}$	5	2 $\frac{1}{2}$.52	.7991	1.20	1.30	1.40	1.55	1.68	1.80	
2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	4	4 $\frac{1}{2}$	5	3	.65	.96	1.13	1.44	1.60	1.77	1.93	2.10	2.27	
2 $\frac{1}{2}$	4	4 $\frac{1}{2}$	5	5 $\frac{1}{2}$	6	3 $\frac{1}{2}$	1.00	1.40	.....	.....	1.75	1.95	2.15	2.35	2.55	2.75
2 $\frac{1}{2}$	4	4 $\frac{1}{2}$	5	5 $\frac{1}{2}$	6	4	1.15	1.60	.....	.....	2.00	2.25	2.50	2.75	3.00	3.25

GALVANIZED—RIGHT AND LEFT

		Length, Inches					Size Inches	Prices		Prices of Extra Long Nipples								
Close	Short	Long			Close or Short	Long		4	5	6	7	8	9	10	11	12		
1	1	2	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	.08	.13	.15	.18	.21	.26	.29	.32	.37	.40	.43	
1	1	2	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	.08	.13	.15	.18	.21	.26	.29	.32	.37	.40	.43	
1	1	2	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	.11	.16	.18	.21	.26	.29	.34	.38	.43	.46	.50	
1	2	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	4	.13	.19	.....	.24	.27	.37	.40	.43	.46	.51	.56
1	2	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	4	1	.18	.2932	.38	.50	.53	.59	.66	.72	.77	
1 $\frac{1}{2}$	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	4	4 $\frac{1}{2}$	1 $\frac{1}{2}$.24	.3743	.51	.62	.72	.80	.88	.96	1.04	
1 $\frac{1}{2}$	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	4	4 $\frac{1}{2}$	1	.29	.4354	.62	.77	.83	.96	1.07	1.15	1.28	
2	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	4	4 $\frac{1}{2}$	2	.39	.5769	.82	1.07	1.15	1.28	1.39	1.54	1.65	
2	3	3 $\frac{1}{2}$	4	4 $\frac{1}{2}$	5	2 $\frac{1}{2}$.83	1.25	1.46	1.92	2.08	2.24	2.48	2.69	2.88	
2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	4	4 $\frac{1}{2}$	5	3	1.04	1.54	1.81	2.30	2.56	2.83	3.09	3.36	3.63	
2 $\frac{1}{2}$	4	4 $\frac{1}{2}$	5	5 $\frac{1}{2}$	6	3 $\frac{1}{2}$	1.60	2.24	.....	.....	2.80	3.12	3.44	3.76	4.08	4.40
2 $\frac{1}{2}$	4	4 $\frac{1}{2}$	5	5 $\frac{1}{2}$	6	4	1.84	2.56	.....	.....	3.20	3.60	4.00	4.40	4.80	5.20

EXTRA HEAVY NIPPLES are charged at double these lists (Right hand or R. & L.).
Nipples longer than 12" are charged as Pipe with cuts and threads extra.

LOCKNUT OR TANK NIPPLES—Not Illustrated.

List same as Standard Nipples. 2-inch and smaller always furnished 6 inches long, unless otherwise specified. 2 $\frac{1}{2}$ -inch and larger, length must be specified.

Malleable Iron Fittings

90° Elbows-Right

Size, inches	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$
Black.....	.10	.08	.13	.18	.19	.32	.55	.68
Galv'd.....	.13	.12	.19	.26	.31	.53	.89	1.10
Size inches	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	5	6	
Black.....	1.05	2.10	3.10	4.35	5.20	8.50	14.95	
Galv'd.....	1.70	3.40	5.10	7.10	8.45	13.85	24.40	



Fig. G-70

90° Elbows-Right & Left

Size, inches	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Black.....	.16	.24	.18	.30	.50	.55	.69	.1.05
Galv'd.....			.27	.45	.75	.90	1.10	.70

Reducing Elbows

Size, inches	$\frac{1}{4} \times \frac{1}{8}$	$\frac{3}{8} \times \frac{1}{8}$	$\frac{3}{8} \times \frac{1}{4}$	$\frac{1}{2} \times \frac{1}{4}$	$\frac{1}{2} \times \frac{3}{8}$	$\frac{3}{8} \times \frac{3}{8}$	$\frac{3}{8} \times \frac{1}{2}$	$1 \times \frac{1}{8}$	$1 \times \frac{1}{2}$	$1 \times \frac{3}{8}$	$1\frac{1}{4} \times \frac{1}{2}$	$1\frac{1}{4} \times \frac{3}{8}$	$1\frac{1}{4} \times 1$
Black.....	.13	.21	.11	.19	.18	.22	.26	.40	.42	.29	.50	.44	.50
Galv'd.....	.17	.28	.17	.28	.26	.33	.39	.59	.63	.47	.81	.71	.81
Size, inches	$1\frac{1}{2} \times \frac{3}{4}$	$1\frac{1}{2} \times 1$	$1\frac{1}{2} \times 1\frac{1}{4}$	2x1	$2x1\frac{1}{4}$	$2x1\frac{1}{2}$	$2\frac{1}{2} \times 1\frac{1}{4}$	$2\frac{1}{2} \times 2$	3x2	$3x2\frac{1}{2}$	$3\frac{1}{2} \times 3$	4x3	$4x3\frac{1}{2}$
Black.....	.44	.56	.63	.71	.88	.97	1.35	1.40	2.15	2.50	4.15	5.10	5.65
Galv'd.....	.72	.91	1.05	1.15	1.45	1.60	2.25	2.25	3.55	4.10	6.80	8.30	9.25



Fig. G-71

45° Elbows

Size, inches	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$
Black.....	.10	.08	.13	.19	.28	.50	.75	.86
Galv'd.....	.13	.12	.19	.28	.42	.74	1.10	1.30
Size, inches	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	5	6	
Black.....	1.55	1.65	2.40	4.00	3.95	6.35	9.60	
Galv'd.....	2.30	2.65	3.95	6.50	6.45	10.35	15.85	

Malleable Iron Fittings



Fig. G-72

90° Street Elbows

Size, inches	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1
Black.....	.10	.08	.12	.22	.30	.35
Galv'd.....	.13	.12	.18	.32	.45	.58

Size, inches	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	4
Black.....	.57	.69	1.20	1.90	2.90	6.15
Galv'd.....	.93	1.10	2.00	3.05	4.75	10.05

Reducing Street Elbows

Size, inches.....	$\frac{3}{4} \times \frac{1}{2}$	$1 \times \frac{1}{2}$	$1 \times \frac{3}{4}$	$1\frac{1}{4} \times \frac{3}{4}$	$1\frac{1}{4} \times 1$	$1\frac{1}{2} \times 1\frac{1}{4}$	$2 \times 1\frac{1}{4}$	$2 \times 1\frac{1}{2}$	$2\frac{1}{2} \times 2$	$3 \times 2\frac{1}{2}$	4×3
Black.....	.24	.42	.47	.50	.44	.64	.91	1.00	1.85	2.95	6.00
Galv'd.....	.36	.63	.70	.81	.71	1.05	1.50	1.65	3.00	4.80	9.80



Fig. G-73

45° Street Elbows

Size, inches.....	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	3	4
Black.....	.12	.22	.30	.35	.57	.69	1.20	2.90	6.15
Galv'd.....	.18	.32	.45	.58	.93	1.10	2.00	4.75	10.05



Fig. G-74

Side Outlet Elbows

Size, inches.....	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Black.....	.13	.24	.38	.51	1.10	1.10	1.65
Galv'd.....	.19	.36	.56	.76	1.60	1.65	2.45

Reducing Side Outlet Elbows

Size, inches.....	$\frac{3}{8} \times \frac{1}{4}$	$\frac{1}{2} \times \frac{3}{8}$	$\frac{3}{4} \times \frac{3}{8}$	$\frac{3}{4} \times \frac{1}{2}$	$1 \times \frac{3}{4}$	$1\frac{1}{4} \times 1$
Black.....	.14	.22	.34	.36	.40	1.05
Galv'd.....	.20	.33	.50	.53	.59	1.60

Malleable Iron Fittings



Fig. G-75

Drop Elbows—Inside Threads

Size, inches	$\frac{1}{4} \times \frac{1}{4}$	$\frac{3}{8} \times \frac{1}{4}$	$\frac{3}{8} \times \frac{3}{8}$	$\frac{1}{2} \times \frac{1}{2}$	$\frac{3}{4} \times \frac{1}{2}$	$\frac{3}{4} \times \frac{3}{4}$
Black	.10	.13	.18	.27	.41	.46
Galv'd.	.14	.19	.26	.40	.61	.68



Fig. G-76

Tees

Size, inches	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$
Black	.13	.11	.18	.24	.27	.43	.74	.96
Galv'd.	.17	.17	.26	.36	.44	.70	1.20	1.60
Size, inches	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	5	6	
Black	1.45	2.60	4.15	5.50	6.85	12.20	17.35	
Galv'd.	2.40	4.40	6.85	9.05	11.30	20.10	28.55	

Reducing Tees

Size, inches	$\frac{3}{8} \times \frac{1}{4} \times \frac{1}{4}$	$\frac{1}{4} \times \frac{1}{4} \times \frac{1}{8}$	$\frac{1}{4} \times \frac{1}{4} \times \frac{3}{8}$	$\frac{3}{8} \times \frac{1}{4} \times \frac{1}{4}$	$\frac{3}{8} \times \frac{1}{4} \times \frac{3}{8}$	$\frac{3}{8} \times \frac{1}{8} \times \frac{1}{8}$	$\frac{3}{8} \times \frac{3}{8} \times \frac{1}{4}$	$\frac{3}{8} \times \frac{3}{8} \times \frac{1}{2}$
Black	.14	.19	.22	.09	.16	.37	.17	.20
Galv'd.	.19	.26	.34	.13	.24	.49	.25	.30
Size, inches	$\frac{3}{8} \times \frac{3}{8} \times \frac{3}{4}$	$\frac{1}{2} \times \frac{1}{4} \times \frac{1}{2}$	$\frac{1}{2} \times \frac{3}{8} \times \frac{1}{4}$	$\frac{1}{2} \times \frac{3}{8} \times \frac{3}{8}$	$\frac{1}{2} \times \frac{3}{8} \times \frac{1}{2}$	$\frac{1}{2} \times \frac{3}{8} \times \frac{3}{4}$	$\frac{1}{2} \times \frac{1}{2} \times \frac{1}{4}$	$\frac{1}{2} \times \frac{1}{2} \times \frac{3}{8}$
Black	.30	.16	.18	.19	.26	.28	.22	.26
Galv'd.	.46	.24	.26	.29	.40	.42	.34	.38
Size, inches	$\frac{1}{2} \times \frac{1}{2} \times \frac{3}{4}$	$\frac{1}{2} \times \frac{1}{2} \times 1$	$\frac{3}{4} \times \frac{1}{4} \times \frac{3}{4}$	$\frac{3}{4} \times \frac{3}{8} \times \frac{3}{8}$	$\frac{3}{4} \times \frac{3}{8} \times \frac{1}{2}$	$\frac{3}{4} \times \frac{3}{8} \times \frac{3}{4}$	$\frac{3}{4} \times \frac{3}{8} \times 1$	$\frac{3}{4} \times \frac{1}{2} \times \frac{1}{4}$
Black	.34	.46	.46	.34	.37	.41	.54	.39
Galv'd.	.50	.69	.69	.52	.55	.61	.81	.59
Size, inches	$\frac{3}{8} \times \frac{1}{2} \times \frac{3}{8}$	$\frac{3}{4} \times \frac{1}{2} \times \frac{1}{2}$	$\frac{3}{4} \times \frac{1}{2} \times \frac{3}{4}$	$\frac{3}{4} \times \frac{1}{2} \times 1$	$\frac{3}{4} \times \frac{3}{4} \times \frac{1}{4}$	$\frac{3}{4} \times \frac{1}{4} \times \frac{3}{8}$	$\frac{3}{4} \times \frac{3}{4} \times \frac{1}{2}$	$\frac{3}{4} \times \frac{3}{4} \times 1$
Black	.29	.36	.37	.52	.32	.32	.35	.36
Galv'd.	.43	.54	.55	.78	.48	.48	.53	.60

Malleable Iron Fittings

Reducing Tees (*continued*)

Size, inches.....	$\frac{3}{4}x\frac{3}{4}x1\frac{1}{4}$	$1x\frac{3}{8}x\frac{1}{2}$	$1x\frac{3}{8}x\frac{3}{4}$	$1x\frac{3}{8}x1$	$1x\frac{1}{2}x\frac{3}{8}$	$1x\frac{1}{2}x\frac{1}{2}$	$1x\frac{1}{2}x\frac{3}{4}$	$1x\frac{1}{2}x1$
Black.....	.50	.54	.61	.72	.55	.48	.60	.58
Galv'd.....	.81	.81	.91	1.10	.83	.72	.90	.87

Size, inches.....	$1x\frac{3}{4}x\frac{3}{8}$	$1x\frac{3}{4}x\frac{1}{2}$	$1x\frac{3}{4}x\frac{3}{4}$	$1x\frac{3}{4}x1$	$1x\frac{3}{4}x1\frac{1}{4}$	$1x1x\frac{1}{4}$	$1x1x\frac{3}{8}$	$1x1x\frac{1}{2}$
Black.....	.46	.44	.39	.45	.51	1.35	.66	.62
Galv'd.....	.69	.66	.64	.74	.85	2.05	.99	.93

Size, inches.....	$1x1x\frac{3}{4}$	$1x1x1\frac{1}{4}$	$1x1x1\frac{1}{2}$	$1x1x2$	$1\frac{1}{4}x\frac{3}{8}x1\frac{1}{4}$	$1\frac{1}{4}x\frac{1}{2}x1$	$1\frac{1}{4}x\frac{1}{2}x1\frac{1}{4}$	$1\frac{1}{4}x\frac{3}{4}x\frac{3}{4}$
Black.....	.43	.58	.71	.94	.91	.88	.88	.52
Galv'd.....	.70	.95	1.15	1.55	1.35	1.30	1.30	.95

Size, inches.....	$1\frac{1}{4}x\frac{3}{4}x1$	$1\frac{1}{4}x\frac{3}{4}x1\frac{1}{4}$	$1\frac{1}{4}x1x\frac{3}{8}$	$1\frac{1}{4}x1x\frac{1}{2}$	$1\frac{1}{4}x1x\frac{3}{4}$	$1\frac{1}{4}x1x1$	$1\frac{1}{4}x1x1\frac{1}{4}$	$1\frac{1}{4}x1x1\frac{1}{2}$
Black.....	.52	.63	.70	.76	.43	.64	.66	.87
Galv'd.....	.86	1.05	1.05	1.15	.71	1.05	1.10	1.45

Size, inches.....	$1\frac{1}{4}x1\frac{1}{4}x\frac{3}{8}$	$1\frac{1}{4}x1\frac{1}{4}x\frac{1}{2}$	$1\frac{1}{4}x1\frac{1}{4}x\frac{3}{4}$	$1\frac{1}{4}x1\frac{1}{4}x1$	$1\frac{1}{4}x1\frac{1}{4}x1\frac{1}{2}$	$1\frac{1}{4}x1\frac{1}{4}x2$	$1\frac{1}{2}x\frac{3}{8}x1\frac{1}{2}$	$1\frac{1}{2}x\frac{1}{2}x1\frac{1}{2}$
Black.....	.74	.80	.58	.62	.79	.92	1.30	1.20
Galv'd.....	1.10	1.20	.95	1.05	1.30	1.50	1.90	1.75

Size, inches.....	$1\frac{1}{2}x\frac{3}{4}x\frac{3}{4}$	$1\frac{1}{2}x\frac{3}{4}x1\frac{1}{2}$	$1\frac{1}{2}x1x1$	$1\frac{1}{2}x1x1\frac{1}{4}$	$1\frac{1}{2}x1x1\frac{1}{2}$	$1\frac{1}{2}x1\frac{1}{4}x\frac{1}{2}$	$1\frac{1}{2}x1\frac{1}{4}x\frac{3}{4}$	$1\frac{1}{2}x1\frac{1}{4}x1$
Black.....	.73	.78	.71	.76	.83	.83	.68	.69
Galv'd.....	1.20	1.30	1.15	1.25	1.35	1.35	1.10	1.15

Size, inches.....	$1\frac{1}{2}x1\frac{1}{4}x1\frac{1}{4}$	$1\frac{1}{2}x1\frac{1}{4}x1\frac{1}{2}$	$1\frac{1}{2}x1\frac{1}{4}x2$	$1\frac{1}{2}x1\frac{1}{2}x\frac{3}{8}$	$1\frac{1}{2}x1\frac{1}{2}x\frac{1}{2}$	$1\frac{1}{2}x1\frac{1}{2}x\frac{3}{4}$	$1\frac{1}{2}x1\frac{1}{2}x1$	$1\frac{1}{2}x1\frac{1}{2}x1\frac{1}{4}$
Black.....	.78	.87	1.15	.86	.95	.75	.78	.83
Galv'd.....	1.30	1.45	1.95	1.30	1.45	1.25	1.30	1.35

Size, inches.....	$1\frac{1}{2}x1\frac{1}{2}x2$	$2x\frac{3}{8}x2$	$2x\frac{1}{2}x2$	$2x\frac{3}{4}x2$	$2x1x2$	$2x1\frac{1}{4}x1\frac{1}{4}$	$2x1\frac{1}{4}x1\frac{1}{2}$	$2x1\frac{1}{4}x2$
Black.....	1.15	1.80	1.80	1.05	1.30	1.20	1.15	1.25
Galv'd.....	1.95	2.70	2.70	1.70	2.15	2.00	1.85	2.10

Continued on page 46.

Malleable Iron Fittings

Reducing Tees (continued)

Size, inches	2x1½x1	2x1½x1½	2x1½x1½	2x1½x2	2x2x½	2x2x½	2x2x¾	2x2x1
Black	.91	1.10	1.15	1.30	1.30	1.25	.89	1.05
Galv'd.	1.50	1.75	1.85	2.15	2.15	1.85	1.45	1.75

Size, inches	2x2x1½	2x2x1½	2x2x2½	2x2x3	2½x1½x2½	2½x2x1½	2½x2x2	2½x2x2½
Black	1.10	1.25	1.90	2.40	2.35	2.25	2.30	2.35
Galv'd.	1.85	2.05	3.15	4.00	3.90	3.65	3.75	3.90

Size, inches	2½x2½x¾	2½x2½x1	2½x2½x1½	2½x2½x1½	2½x2½x2	2½x2½x3	3x2x3	3x2½x2
Black	1.65	1.35	1.80	1.35	2.35	3.25	3.40	3.40
Galv'd.	2.75	2.25	3.00	2.25	3.85	5.35	5.55	5.55

Size, inches	3x2½x3	3x3x¾	3x3x1	3x3x1½	3x3x1½	3x3x2	3x3x2½	3½x3½x2½
Black	3.40	2.60	3.05	3.00	2.55	3.05	3.25	4.15
Galv'd.	5.55	4.30	5.00	4.90	4.15	5.05	5.35	6.85

Size, inches	3½x3½x3	4x3x3	4x3x4	4x4x1	4x4x1½	4x4x1½	4x4x2	4x4x2½
Black	5.05	6.10	6.10	4.45	4.70	4.50	4.50	5.40
Galv'd.	8.35	10.05	10.05	7.30	7.70	7.40	7.40	8.90

Size, inches	4x4x3	4x4x3½	5x5x2	5x5x3	5x5x4	6x6x2	6x6x2½	6x6x3	6x6x4
Black	6.25	7.55	6.50	10.90	13.00	10.60	10.70	11.15	13.25
Galv'd.	10.25	12.40	10.70	18.00	21.40	17.45	18.00	18.35	21.85

In describing Tees, the run is first named, and the outlet last, thus:



reads $\frac{1}{2} \times \frac{3}{8} \times \frac{1}{4}$



reads $\frac{1}{2} \times \frac{3}{8}$

Malleable Iron Fittings

Service Tees



Fig. G-77

Size, inches . . .	$\frac{3}{8} \times \frac{3}{8} \times \frac{3}{8}$	$\frac{1}{2} \times \frac{1}{2} \times \frac{1}{2}$	$\frac{3}{4} \times \frac{1}{2} \times \frac{3}{4}$	$\frac{3}{4} \times \frac{3}{4} \times \frac{3}{4}$	$\frac{3}{4} \times \frac{3}{4} \times 1$
Black . . . . .	.20	.26	.36	.39	.42
Galv'd. . . . .	.30	.38	.54	.59	.62

Size, inches . . .	$1 \times \frac{3}{4} \times 1$	$1 \times 1 \times \frac{3}{4}$	$1 \times 1 \times 1$	$1 \times 1 \times \frac{1}{4}$	$1 \frac{1}{4} \times \frac{3}{4} \times 1 \frac{1}{4}$
Black . . . . .	.48	.67	.39	.42	.49
Galv'd. . . . .	.72	1.00	.64	.68	.81

Sizes, inches	$1 \frac{1}{4} \times 1 \times 1$	$1 \frac{1}{4} \times 1 \times 1 \frac{1}{4}$	$1 \frac{1}{4} \times 1 \frac{1}{4} \times 1 \frac{1}{4}$	$1 \frac{1}{2} \times \frac{3}{4} \times 1 \frac{1}{2}$	$1 \frac{1}{2} \times 1 \times 1 \frac{1}{2}$	$1 \frac{1}{2} \times 1 \frac{1}{4} \times 1 \frac{1}{2}$	$1 \frac{1}{2} \times 1 \frac{1}{2} \times 1 \frac{1}{2}$
Black . . . . .	.60	.68	.75	.82	.86	.89	.95
Galv'd. . . . .	.98	1.10	1.25	1.35	1.40	1.45	1.55

Size, inches	$2 \times 1 \frac{1}{2} \times 2$	$2 \times 2 \times 2$	$2 \frac{1}{2} \times 2 \times 2 \frac{1}{2}$	$2 \frac{1}{2} \times 2 \frac{1}{2} \times 2 \frac{1}{2}$	$3 \times 2 \frac{1}{2} \times 3$	$3 \times 3 \times 3$	$3 \times 3 \times 4$
Black	1.45	1.55	2.20	2.50	2.95	3.55	3.90
Galv'd.	2.40	2.55	3.60	4.10	4.90	5.80	6.40

Four Way Tees



Fig. G-78

Size, inches	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1 \frac{1}{4}$	$1 \frac{1}{2}$	2
Black . . . . .	.18	.23	.34	.61	1.00	1.20	1.90
Galv'd. . . . .	.28	.35	.52	.92	1.50	1.80	2.85

Drop Tees — Inside Threads



Fig. G-79

Size, inches	$\frac{3}{8} \times \frac{3}{8} \times \frac{1}{4}$	$\frac{3}{8} \times \frac{3}{8} \times \frac{3}{8}$	$\frac{1}{2} \times \frac{3}{8} \times \frac{3}{8}$	$\frac{1}{2} \times \frac{1}{2} \times \frac{3}{8}$	$\frac{1}{2} \times \frac{1}{2} \times \frac{1}{2}$	$\frac{3}{4} \times \frac{1}{2} \times \frac{3}{8}$
Black . . . . .	.17	.19	.21	.22	.29	.35
Galv'd. . . . .	.25	.28	.31	.32	.43	.52

Size, inches	$\frac{3}{4} \times \frac{3}{4} \times \frac{1}{4}$	$\frac{3}{4} \times \frac{3}{4} \times \frac{3}{8}$	$\frac{3}{4} \times \frac{3}{4} \times \frac{1}{2}$	$\frac{3}{4} \times \frac{3}{4} \times \frac{3}{4}$	$1 \times 1 \times \frac{1}{8}$	
Black . . . . .	.33	.31	.35	.39	.58	
Galv'd. . . . .	.49	.46	.52	.58	.85	

Malleable Iron Fittings

Crosses — Straight and Reducing



Fig. G-80

Size, inches	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$
Black . . . . .	.10	.22	.32	.48	1.00	.79
Galv'd. . . . .	.16	.34	.48	.73	1.50	1.30
Size, inches	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4
Black	1.15	1.80	3.10	4.75	5.50	4.75
Galv'd.	1.90	3.00	5.20	7.85	9.15	14.55

Size, inches	5	6	$\frac{3}{8} \times \frac{3}{8} \times \frac{1}{4}$	$\frac{1}{2} \times \frac{3}{8} \times \frac{3}{8}$	$\frac{1}{2} \times \frac{1}{2} \times \frac{1}{2}$	$\frac{1}{2} \times \frac{1}{2} \times \frac{3}{8}$	$\frac{3}{4} \times \frac{3}{8} \times \frac{1}{2}$	$\frac{3}{4} \times \frac{1}{2} \times \frac{1}{2}$
Black	14.95	20.40	.19	.23	.24	.24	.46	.46
Galv'd.	24.85	33.90	.29	.35	.36	.36	.69	.70

Size, inches	$\frac{3}{4} \times \frac{1}{2} \times \frac{1}{2}$	$\frac{3}{4} \times \frac{3}{8} \times \frac{3}{8}$	$\frac{3}{4} \times \frac{3}{8} \times \frac{1}{2}$	$1 \times \frac{1}{2} \times \frac{3}{8}$	$1 \times \frac{3}{4} \times \frac{3}{8}$	$1 \times \frac{3}{4} \times \frac{1}{2}$	$1 \times \frac{3}{4} \times \frac{3}{4}$	$1 \times 1 \times \frac{3}{8}$
Black . . . . .	.48	.38	.42	.52	.50	.70	.72	.58
Galv'd. . . . .	.73	.57	.64	.79	.75	1.05	1.10	.88

Size, inches	$1 \times 1 \times \frac{1}{2}$	$1 \times 1 \times \frac{3}{4}$	$1 \frac{1}{4} \times 1 \times \frac{3}{4}$	$1 \frac{1}{4} \times 1 \times 1$	$1 \frac{1}{4} \times 1 \frac{1}{4} \times \frac{3}{8}$	$1 \frac{1}{4} \times 1 \frac{1}{4} \times \frac{1}{2}$	$1 \frac{1}{4} \times 1 \frac{1}{4} \times \frac{3}{4}$	$1 \frac{1}{4} \times 1 \frac{1}{4} \times 1$
Black . . . . .	.64	.78	.48	.49	.86	.84	.83	.77
Galv'd. . . . .	.97	1.15	.79	.82	1.30	1.25	1.40	1.30

Size, inches	$1 \frac{1}{2} \times 1 \frac{1}{4} \times 1 \frac{1}{4}$	$1 \frac{1}{2} \times 1 \frac{1}{2} \times \frac{1}{2}$	$1 \frac{1}{2} \times 1 \frac{1}{2} \times \frac{3}{4}$	$1 \frac{1}{2} \times 1 \frac{1}{2} \times 1$	$1 \frac{1}{2} \times 1 \frac{1}{2} \times 1 \frac{1}{4}$	$2 \times 2 \times \frac{1}{2}$	$2 \times 2 \times \frac{3}{4}$	$2 \times 2 \times 1$
Black	1.05	1.05	.65	.84	.96	1.50	.91	1.15
Galv'd.	1.75	1.60	1.10	1.40	1.60	2.30	1.50	2.30

Size, inches	$2 \times 2 \times 1 \frac{1}{4}$	$2 \times 2 \times 1 \frac{1}{2}$	$2 \frac{1}{2} \times 2 \frac{1}{2} \times 2$	$3 \times 3 \times 2$	$3 \times 3 \times 2 \frac{1}{2}$	$4 \times 4 \times 2$	$4 \times 4 \times 3$
Black	1.60	2.00	2.60	3.40	3.90	5.55	5.70
Galv'd.	2.65	3.35	4.30	5.60	6.45	9.20	10.30

In describing Crosses the last figure denotes the outlets, which are both the same size.

Malleable Iron Fittings

RETURN BENDS



Fig. G-81 Close



Fig. G-82 Medium



Fig. G-83 Open

Close

Size, inches	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Centres "	1	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{3}{4}$	$2\frac{3}{16}$	$2\frac{5}{8}$
Right Hand, Black	.29	.38	.72	.75	1.00	1.55
" " Galv'd.	.43	.57	1.05	1.20	1.65	2.55
Right & Left Black	.58	.39	.73	1.20	1.55	2.50
" " Galv'd.	.76	.58	1.10	1.75	2.30	3.70

Medium

Size, inches	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Centres, "	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{7}{8}$	$2\frac{1}{4}$	$2\frac{1}{2}$	3
Right Hand, Black	.29	.42	.93	.85	1.05	1.85
" " Galv'd.	.43	.62	1.40	1.40	1.70	3.05
Right & Left Black	.64	.43	.94	1.35	1.65	2.90
" " Galv'd.	.85	.64	1.40	2.00	2.40	4.25

Open

Size, inches	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Centres "	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5
R. H. Black	.32	.50	.96	.94	1.25	2.00	3.85	5.70
" " Galv'd.	.47	.75	1.40	1.55	2.10	3.20	6.30	9.35
R. & L. Black	.66	.51	1.00	1.45	2.00	3.05	6.00	8.90
" " Galv'd.	.87	.76	1.50	2.15	3.00	4.55	8.90	13.20

Malleable Iron Fittings

Y Branch



Fig. G-84

Size, inches	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Black	.37	.40	.80	1.45	1.90	3.20
Galv'd.	.55	.59	1.20	2.15	2.85	4.75

Prices for $2\frac{1}{2}$ ", 3" and 4", on application.

Reducing Y Branch

Size, inches	$1\frac{1}{4} \times 1\frac{1}{4} \times \frac{3}{4}$	$1\frac{1}{2} \times 1\frac{1}{4} \times 1\frac{1}{4}$	$1\frac{1}{2} \times 1\frac{1}{4} \times 1\frac{1}{2}$	$1\frac{1}{2} \times 1\frac{1}{4} \times 1\frac{1}{4}$	$2 \times 1\frac{1}{4} \times 1\frac{1}{4}$	$2 \times 1\frac{1}{4} \times 1\frac{1}{2}$
Black	1.10	1.90	1.90	1.90	2.20	2.00
Galv'd.	1.60	2.80	2.85	2.80	3.25	3.00

Size, inches	$2 \times 1\frac{1}{4} \times 2$	$2 \times 1\frac{1}{2} \times 1\frac{1}{4}$	$2 \times 1\frac{1}{2} \times 1\frac{1}{2}$	$2 \times 1\frac{1}{2} \times 2$	$2 \times 2 \times 1\frac{1}{4}$	$2 \times 2 \times 1\frac{1}{2}$
Black	2.15	1.70	1.80	2.25	2.60	3.30
Galv'd.	3.20	2.55	2.65	3.30	3.85	4.90

Couplings — Right hand



Fig. G-85

Size, inches	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$
Black	.06	.10	.18	.26	.30	.44	.52
Galv'd.	.09	.14	.27	.38	.49	.70	.85

Size, inches	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	5	6
Black	.83	1.35	2.10	4.20	4.95	7.60	11.50
Galv'd.	1.35	2.20	3.40	6.25	7.30	11.30	17.05

Couplings — Right and Left

Size, inches	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Black	.07	.12	.16	.29	.33	.44	.52	.83	1.30
Galv'd.	.11	.18	.24	.43	.53	.72	.85	1.35	2.10

Malleable Iron Fittings



Fig. G-86

Reducing Couplings

Size, inches	$\frac{1}{4} \times \frac{1}{2}$	$\frac{3}{8} \times \frac{1}{2}$	$\frac{3}{8} \times \frac{1}{4}$	$\frac{1}{2} \times \frac{1}{2}$	$\frac{1}{2} \times \frac{1}{4}$	$\frac{1}{2} \times \frac{3}{4}$	$\frac{3}{4} \times \frac{1}{4}$
Black	.13	.14	.10	.29	.13	.15	.21
Galv'd.	.17	.19	.14	.38	.19	.23	.31

Size, inches	$\frac{3}{4} \times \frac{3}{8}$	$\frac{3}{4} \times \frac{1}{2}$	$1 \times \frac{1}{4}$	$1 \times \frac{3}{8}$	$1 \times \frac{1}{2}$	$1 \frac{1}{4} \times \frac{3}{8}$	$1 \frac{1}{4} \times \frac{1}{2}$	$1 \frac{1}{4} \times \frac{3}{4}$	$1 \frac{1}{4} \times 1$
Black	.18	.22	.32	.33	.35	.40	.40	.36	.26
Galv'd.	.27	.33	.47	.49	.52	.59	.59	.53	.53

Size, inches	$1 \frac{1}{2} \times \frac{1}{2}$	$1 \frac{1}{2} \times \frac{3}{4}$	$1 \frac{1}{2} \times 1$	$1 \frac{1}{2} \times 1 \frac{1}{4}$	$2 \times \frac{1}{2}$	$2 \times \frac{3}{4}$	2×1	$2 \times 1 \frac{1}{4}$	$2 \times 1 \frac{1}{2}$	$2 \frac{1}{2} \times 1$
Black	.56	.39	.42	.50	.94	.68	.66	.68	.68	1.10
Galv'd.	.83	.64	.68	.81	1.45	1.10	1.10	1.10	1.10	1.80

Size, inch.	$2 \frac{1}{2} \times 1 \frac{1}{4}$	$2 \frac{1}{2} \times 1 \frac{1}{2}$	$2 \frac{1}{2} \times 2$	3×1	$3 \times 1 \frac{1}{4}$	$3 \times 1 \frac{1}{2}$	3×2	$3 \times 2 \frac{1}{2}$	$3 \frac{1}{2} \times 2$
Black	1.00	.95	1.15	1.45	1.45	1.45	1.55	1.60	1.65
Galv'd.	1.65	1.55	1.90	2.35	2.35	2.40	2.55	2.65	2.70

Size, inc.	$3 \frac{1}{2} \times 2 \frac{1}{2}$	$3 \frac{1}{2} \times 3$	4×1	$4 \times 1 \frac{1}{4}$	$4 \times 1 \frac{1}{2}$	4×2	$4 \times 2 \frac{1}{2}$	4×3	$4 \times 3 \frac{1}{2}$
Black	2.10	2.35	2.50	2.50	2.40	2.45	2.50	2.90	3.25
Galv'd.	3.40	3.80	4.05	4.10	3.95	3.95	4.10	4.75	5.30

Extension Pieces



Fig. G-87

Size, inches	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1 \frac{1}{4}$	$1 \frac{1}{2}$	2
Black	.13	.16	.20	.25	.30	.50	.75
Galv'd.	.19	.24	.29	.38	.45	.75	1.20

Crossovers

Size, inches	$\frac{1}{2}$	$\frac{3}{4}$	1
Black	0.20	0.30	0.45
Galv'd.	0.25	0.40	0.60

Crossover Tees (not illustrated)

Size, inches	$\frac{1}{2}$	$\frac{3}{4}$	1
Galvanized	0.38	0.55	0.86



Fig. G-88

Malleable Iron Fittings

Lock Nuts



Fig. G-89

Size, inches	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Black	.04	.03	.04	.06	.10	.15	.23	.17	.22
Galv'd.	.06	.05	.06	.09	.14	.23	.34	.27	.36



Fig. G-90

Waste Nuts

Size, inches	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$
Black	.03	.05	.08	.10	.14	.22	.35
Galv'd.	.05	.07	.12	.14	.20	.32	.52



Fig. G-91

Caps

Size, inches	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1
Black	.06	.04	.06	.13	.16	.30
Galv'd.	.08	.06	.08	.19	.24	.45

Size, inches	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	5	6
Black	.30	.36	.59	.99	1.55	2.05	2.45	3.95	6.65
Galvanized	.48	.59	.97	1.60	2.50	3.35	4.00	6.45	10.80

Malleable Railing Fittings (Adjustable)



Fig. G-92 ELBOW



Fig. G-93 TEE



Fig. G-94 STAIR TEE



Fig. G-95 CROSS



Fig. G-96 STAIR CROSS



Fig. G-97
STAIR LANDING TEE



Fig. G-98
STAIR LANDING CROSS



Fig. G-99
FLANGE

Practically any desired angle may be obtained with these Fittings

All tappings are Right Hand. If tapped otherwise add 15 per cent to price lists.

As fittings do not need to be steam or water-tight, a sufficiently clean thread to screw up well and make a good job can be made by running a left-hand Tap into any outlet tapped right-hand.

For Price Lists, see page 55.

Malleable Railing Fittings (Standard)



Fig. G-100
ELBOW



Fig. G-101
SIDE OUTLET ELBOW



Left

Fig. G-102
TEE



Fig. G-103
SIDE OUTLET TEE



Fig. G-104
CROSS



Fig. G-105
SIDE OUTLET CROSS



Fig. G-106
FLANGE (Square)



Fig. G-107
FLOOR FLANGE (Globe)



Left

Fig. G-108
ORNAMENT

Note: All the above Fittings are Threaded Right Hand, except where shown Left

Fittings tapped as above will be supplied, unless otherwise specified.

As Fittings do not need to be steam or water-tight, a sufficiently clean thread to screw up well and make a good job can be made by running a left-hand Tap into any outlet tapped right-hand.

THOMAS ROBERTSON & COMPANY, LIMITED

Malleable Railing Fittings

Adjustable

Pipe Size	inches	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2
Fig. G 92—Elbow	each	\$1.10	1.25	1.70	2.25
Fig. G 93—Tee	"	1.30	1.50	2.00	2.50
Fig. G 94—Stair Tee	"	1.30	1.60	2.15	2.50
Fig. G 95—Cross	"	1.50	1.75	2.35	2.75
Fig. G 96—Stair Cross	"	1.50	1.85	2.50	2.75
Fig. G 97—Stair Landing Tee	"	0.90	1.10	1.50	2.15
Fig. G 98—Stair Landing Cross	"	1.00	1.20	1.60	2.40
Fig. G 99—Flange	"	1.65	1.75	1.90	2.50

Standard

Pipe Size	inches	$\frac{1}{2}$	$\frac{3}{4}$	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$	3
Fig. G 100—Elbow	each	\$0.15	0.18	0.20	0.35	0.45	0.72	1.60	2.25
Fig. G 101— " Side Outlet	"	0.20	0.23	0.25	0.40	0.50	0.80	1.75	2.50
Fig. G 102—Tee	"	0.20	0.23	0.25	0.40	0.50	0.75	1.75	2.50
Fig. G 103— " Side Outlet	"	0.30	0.33	0.35	0.45	0.55	0.90	1.90	2.60
Fig. G 104—Cross	"	0.30	0.33	0.35	0.45	0.58	1.00	1.80	2.60
Fig. G 105— " Side Outlet	"	0.35	0.38	0.40	0.50	0.65	1.35	2.00	2.75
Fig. G 106—Flange	"	0.14	0.15	0.15	0.20	0.28	0.30	0.50	0.75
Fig. G 107—Floor Flange	"	0.16	0.18	0.20	0.40	0.50	0.90	1.35	2.50
Fig. G 108—Ornament	"	0.16	0.18	0.20	0.25	0.35	0.90	1.35	2.00

For Galvanized Fittings add 50 per cent to these List Prices

REDUCING SIZES and PRICES furnished on Application

Polished Brass Railing Fittings

Pipe Size	inches	$\frac{1}{2}$	$\frac{3}{4}$	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2
Elbows	each	.40	.60	.80	1.20	1.60	2.50
Elbows, side outlet	"	.75	1.00	1.45	1.70	2.00	3.00
Elbows 45°	"	..	..	1.50	1.70	2.15	3.00
Tees	"	.60	.85	1.10	1.70	2.00	3.00
Tees, side outlet	"	1.05	1.25	1.50	2.00	2.40	3.50
Tees, 45°	"	..	..	1.55	2.05	2.40	3.35
Crosses	"	1.05	1.25	1.50	2.00	2.40	3.50
Crosses, side outlet	"	1.20	1.45	1.70	2.25	3.00	4.00
Crosses, 45°	"	..	..	1.60	2.20	2.60	3.40
Ornament	"	.75	.90	1.00	1.35	1.75	2.50
Flanges	"	.75	.90	1.00	1.35	1.75	2.50

Standard Cast Iron Screwed Fittings

For 125 lbs. Steam Working Pressure

90° Elbows-Right



Fig. G-109

Size, inches	1	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Black	.05	.05	.06	.08	.10 $\frac{1}{2}$	.16	.20	.28
Galv'd	.10	.10	.12	.16	.21	.32	.40	.56
Size, inches	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	5	6	8	
Black	.50	.75	1.05	1.20	2.00	2.75	6.75	
Galv'd	1.00	1.50	2.10	2.40	4.00	5.50	13.50	

Elbows pitched $\frac{1}{4}$ inch to the foot can be supplied in sizes $\frac{1}{2}''$ to 6''

90° Elbows—Right & Left

Size, inches	1	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Black	.06	.06	.07	.09	.12	.18	.23	.32	.60	.85

Prices on application.

"Right and Left" Elbows have one end ribbed

Reducing Elbows



Fig. G-110

Size, inches	$\frac{1}{2}\times\frac{3}{8}$	$\frac{3}{4}\times\frac{3}{8}$	$\frac{3}{4}\times\frac{1}{2}$	$1\times\frac{3}{8}$	$1\times\frac{1}{2}$	$1\frac{1}{4}\times\frac{3}{8}$	$1\frac{1}{4}\times\frac{1}{2}$	$1\frac{1}{4}\times\frac{3}{4}$	$1\frac{1}{4}\times 1$	$1\frac{1}{2}\times\frac{3}{4}$	$1\frac{1}{2}\times 1$
Black	.07	.09	.09	.12	.12	.18	.24	.24	.24	.12	.12
Galv'd	.14	.18	.18	.24	.24	.36	.46	.46	.46	.24	.24
Size, inches	$1\frac{1}{4}\times\frac{3}{8}$	$1\frac{1}{4}\times\frac{1}{2}$	$1\frac{1}{4}\times\frac{3}{4}$	$1\frac{1}{4}\times 1$	$1\frac{1}{2}\times\frac{3}{4}$	$1\frac{1}{2}\times 1$	$2\frac{1}{2}\times\frac{3}{8}$	$2\frac{1}{2}\times\frac{1}{2}$	$2\frac{1}{2}\times 1$	$2\frac{1}{2}\times\frac{3}{4}$	$2\frac{1}{2}\times 1$
Black	.18	.18	.18	.18	.23	.23	.46	.46	.46	.23	.23
Galv'd	.36	.36	.36	.36	.46	.46	.92	.92	.92	.46	.46
Size, inches	$1\frac{1}{2}\times 1\frac{1}{4}$	$2\times\frac{3}{8}$	2×1	$2\times 1\frac{1}{4}$	$2\times 1\frac{1}{2}$	$2\frac{1}{2}\times 1$	$2\frac{1}{2}\times 1\frac{1}{4}$	$2\frac{1}{2}\times 1\frac{1}{2}$	$2\frac{1}{2}\times 2$		
Black	.23	.32	.32	.32	.32	.60	.60	.60	.60	.60	.60
Galv'd	.46	.64	.64	.64	.64	1.20	1.20	1.20	1.20	1.20	1.20
Size, inches	$3\times 1\frac{1}{4}$	$3\times 1\frac{1}{2}$	3×2	$3\times 2\frac{1}{2}$	$3\frac{1}{2}\times 2$	$3\frac{1}{2}\times 2\frac{1}{2}$	$3\frac{1}{2}\times 3$	4×2	$4\times 2\frac{1}{2}$		
Black	.85	.85	.85	.85	1.20	1.20	1.20	1.40	1.40		
Galv'd	1.70	1.70	1.70	1.70	2.40	2.40	2.40	2.80	2.80		
Size, inches	4×3	$4\times 3\frac{1}{2}$	$5\times 2\frac{1}{2}$	5×3	5×4	6×4	6×5	8×6			
Black	1.40	1.40	2.30	2.30	2.30	3.15	3.15	7.75			
Galv'd	2.80	2.80	4.60	4.60	4.60	6.30	6.30	15.50			

Standard Cast Iron Screwed Fittings

For 125 lbs Steam Working Pressure

45° Elbows



Fig. G-111

Size, inches	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	1	$1\frac{1}{8}$	$1\frac{1}{4}$	2
Black	.06	.06	.07	.10	.12	.19	.24	.34
Galv'd.	.12	.12	.14	.20	.24	.38	.48	.68
Size, inches.	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	5	6	8	
Black	.60	.90	1.25	1.45	2.50	3.45	8.50	
Galv'd.	1.20	1.80	2.50	2.90	5.00	6.90	17.00	

$22\frac{1}{2}^\circ$, 30° and 60° Elbows can be supplied, if required.

Y Branches



Fig. G-112

Size, inches	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$1\frac{1}{8}$	$1\frac{1}{4}$	2	$2\frac{1}{2}$
Black	.20	.28	.34	.54	.66	.94	1.66
Galv'd.	.40	.53	.68	1.08	1.32	1.88	3.32
Size, inches	3	$3\frac{1}{2}$	4	5	6	8	
Black	2.50	3.50	4.00	7.00	9.20	22.50	
Galv'd.	5.00	7.00	8.00	14.00	18.40	45.00	

Reducing Y's are made up by using Face Bushings.

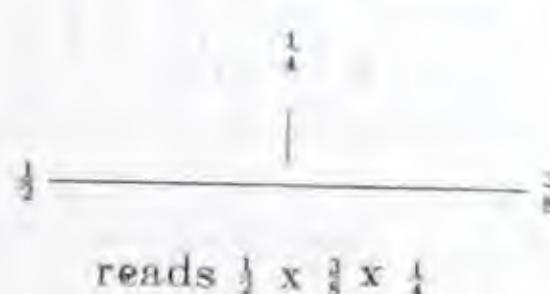
Tees



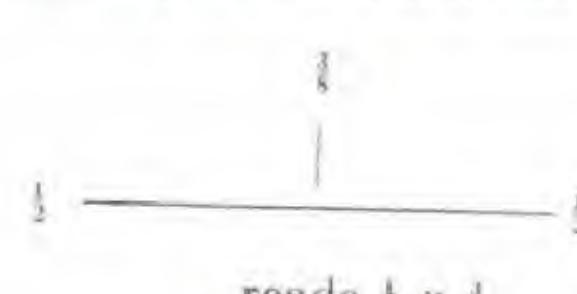
Fig. G-113

Size, inches	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$1\frac{1}{8}$	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Black	.08	.08	.09	.12	.15	.23	.29
Galv'd.	.16	.16	.18	.24	.30	.46	.82
Size, inches	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	5	6	8
Black	.73	1.10	1.50	1.75	3.00	4.00	9.75
Galv'd.	1.45	2.20	3.00	3.50	6.00	8.00	19.50

In describing Tees the run is first named, and the outlet last, thus:



reads $\frac{1}{2} \times \frac{3}{8} \times \frac{1}{4}$



reads $\frac{1}{2} \times \frac{1}{2} \times \frac{1}{2}$

Standard Cast Iron Screwed Fittings

For 125 lbs Steam Working Pressure

Reducing Tees

The largest opening determines the list price.



Fig. G-114
Reducing on Outlet

Size, inches.	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Black . . . . .	.09	.10	.14	.17	.27	.33	.47
Galv'd. . . . .	.18	.20	.28	.34	.54	.66	.94
Size, inches	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	5	6	8
Black . . . . .	.83	1.25	1.75	2.00	3.50	4.60	11.25
Galv'd.	1.66	2.50	3.50	4.00	7.00	9.20	22.50



Fig. G-115
Reducing on Run

Tees—Reducing Sizes

In describing Tees, the run is first named, and the outlet last, thus:



reads $\frac{1}{2} \times \frac{3}{8} \times \frac{1}{4}$



reads $\frac{1}{2} \times \frac{1}{2}$

$\frac{3}{8} \times \frac{3}{8} \times \frac{1}{4}$	$\frac{3}{4} \times \frac{3}{8} \times \frac{3}{4}$	$1 \times \frac{1}{2} \times \frac{3}{4}$	$1\frac{1}{4} \times 1 \times 1\frac{1}{4}$	$1\frac{1}{2} \times 1\frac{1}{2} \times 1\frac{1}{4}$	$1\frac{1}{2} \times 1 \times \frac{1}{2}$
$\frac{3}{4} \times \frac{3}{8} \times \frac{3}{8}$	$1 \times \frac{1}{2} \times \frac{1}{2}$	$1 \times \frac{3}{8} \times 1$	$1\frac{1}{4} \times 1 \times \frac{1}{4}$	$1\frac{1}{2} \times 1\frac{1}{2} \times 1$	$1\frac{1}{2} \times \frac{3}{4} \times 1\frac{1}{2}$
$\frac{1}{2} \times \frac{1}{2} \times \frac{3}{8}$	$\frac{3}{4} \times \frac{1}{4} \times \frac{3}{4}$	$1 \times \frac{3}{8} \times 1$	$1\frac{1}{4} \times 1 \times \frac{1}{4}$	$1\frac{1}{2} \times 1\frac{1}{2} \times \frac{3}{4}$	$1\frac{1}{2} \times \frac{3}{4} \times 1\frac{1}{4}$
$\frac{1}{2} \times \frac{1}{2} \times \frac{1}{4}$	$\frac{1}{2} \times \frac{1}{2} \times \frac{3}{4}$	$1 \times \frac{1}{4} \times 1$	$1\frac{1}{4} \times 1 \times \frac{1}{2}$	$1\frac{1}{2} \times 1\frac{1}{2} \times \frac{1}{2}$	$1\frac{1}{2} \times \frac{3}{4} \times 1$
$\frac{1}{2} \times \frac{3}{8} \times \frac{1}{2}$	$\frac{3}{4} \times \frac{3}{4} \times 1$	$\frac{3}{4} \times \frac{3}{4} \times 1$	$1\frac{1}{4} \times \frac{3}{4} \times 1\frac{1}{4}$	$1\frac{1}{2} \times 1\frac{1}{4} \times 1\frac{1}{2}$	$1\frac{1}{2} \times \frac{3}{4} \times \frac{3}{4}$
$\frac{1}{2} \times \frac{3}{8} \times \frac{3}{8}$	$1 \times 1 \times \frac{3}{8}$	$\frac{3}{4} \times \frac{1}{2} \times 1$	$1\frac{1}{4} \times \frac{3}{4} \times 1$	$1\frac{1}{2} \times 1\frac{1}{4} \times 1\frac{1}{4}$	$1\frac{1}{2} \times \frac{1}{2} \times 1\frac{1}{2}$
$\frac{3}{8} \times \frac{3}{8} \times \frac{1}{2}$	$1 \times 1 \times \frac{1}{2}$	$\frac{1}{2} \times \frac{1}{2} \times 1$	$1\frac{1}{4} \times \frac{3}{4} \times \frac{3}{4}$	$1\frac{1}{2} \times 1\frac{1}{4} \times 1$	$1\frac{1}{2} \times \frac{1}{2} \times 1\frac{1}{4}$
$\frac{3}{8} \times 1 \times \frac{3}{8}$	$1 \times 1 \times \frac{3}{8}$	$1 \times 1 \times \frac{3}{8}$	$1\frac{1}{4} \times \frac{1}{2} \times 1\frac{1}{4}$	$1\frac{1}{2} \times 1\frac{1}{4} \times \frac{3}{4}$	$1\frac{1}{2} \times \frac{3}{8} \times 1\frac{1}{2}$
$\frac{3}{4} \times \frac{1}{2} \times \frac{1}{2}$	$1 \times 1 \times \frac{1}{4}$	$1\frac{1}{4} \times 1\frac{1}{4} \times 1$	$1\frac{1}{4} \times \frac{1}{4} \times 1\frac{1}{4}$	$1\frac{1}{2} \times 1\frac{1}{4} \times \frac{1}{2}$	$1\frac{1}{4} \times 1\frac{1}{4} \times 1\frac{1}{2}$
$\frac{3}{4} \times \frac{1}{2} \times \frac{3}{8}$	$1 \times \frac{3}{4} \times 1$	$1\frac{1}{4} \times 1\frac{1}{4} \times \frac{3}{4}$	$1\frac{1}{4} \times \frac{1}{2} \times 1$	$1\frac{1}{2} \times 1 \times 1\frac{1}{2}$	$1\frac{1}{4} \times 1 \times 1\frac{1}{2}$
$\frac{3}{4} \times \frac{3}{4} \times \frac{1}{4}$	$1 \times \frac{3}{4} \times \frac{3}{4}$	$1\frac{1}{4} \times 1\frac{1}{4} \times \frac{1}{2}$	$1 \times 1 \times 1\frac{1}{4}$	$1\frac{1}{2} \times 1 \times 1\frac{1}{4}$	$1\frac{1}{4} \times \frac{3}{4} \times 1\frac{1}{2}$
$\frac{3}{4} \times \frac{1}{2} \times \frac{1}{4}$	$1 \times \frac{3}{4} \times \frac{1}{2}$	$1\frac{1}{4} \times 1\frac{1}{4} \times \frac{3}{8}$	$1 \times \frac{3}{4} \times 1\frac{1}{4}$	$1\frac{1}{2} \times 1 \times 1$	$1\frac{1}{4} \times \frac{1}{2} \times 1\frac{1}{2}$
$\frac{3}{4} \times \frac{1}{2} \times \frac{3}{8}$	$1 \times \frac{3}{4} \times \frac{1}{2}$	$1\frac{1}{4} \times 1\frac{1}{4} \times \frac{3}{8}$	$1 \times \frac{3}{4} \times 1\frac{1}{4}$	$1\frac{1}{2} \times 1 \times \frac{3}{4}$	$1\frac{1}{4} \times \frac{1}{2} \times 1\frac{1}{4}$
$\frac{3}{4} \times 1 \times \frac{1}{2}$	$1 \times \frac{1}{2} \times 1$	$1\frac{1}{4} \times 1\frac{1}{4} \times \frac{1}{4}$	$\frac{3}{4} \times \frac{3}{4} \times 1\frac{1}{4}$	$1\frac{1}{2} \times 1 \times \frac{3}{4}$	$1 \times 1 \times 1\frac{1}{4}$

Continued on next page

Standard Cast Iron Screwed Fittings

For 125 lbs Steam Working Pressure

Tees—Reducing Sizes (*continued*)

1 x $\frac{3}{4}$ x 1 $\frac{1}{2}$	2 $\frac{1}{2}$ x 2 $\frac{1}{2}$ x 1 $\frac{1}{2}$	3 x 2 $\frac{1}{2}$ x 2	3 $\frac{1}{2}$ x 1 $\frac{1}{4}$ x 3 $\frac{1}{2}$	4 x 1 $\frac{1}{2}$ x 4	6 x 6 x 3
$\frac{3}{4}$ x $\frac{3}{4}$ x 1 $\frac{1}{2}$	2 $\frac{1}{2}$ x 2 $\frac{1}{2}$ x 1 $\frac{1}{4}$	3 x 2 $\frac{1}{2}$ x 1 $\frac{1}{2}$	3 $\frac{1}{2}$ x 1 x 3 $\frac{1}{2}$	4 x 1 $\frac{1}{4}$ x 4	6 x 6 x 2 $\frac{1}{2}$
...	2 $\frac{1}{2}$ x 2 $\frac{1}{2}$ x 1	3 x 2 $\frac{1}{2}$ x 1 $\frac{1}{4}$	3 x 3 x 3 $\frac{1}{2}$	4 x 1 x 4	6 x 6 x 2
2 x 2 x 1 $\frac{1}{2}$	2 $\frac{1}{2}$ x 2 $\frac{1}{2}$ x $\frac{3}{4}$	3 x 2 $\frac{1}{2}$ x 1	...	3 $\frac{1}{2}$ x 3 $\frac{1}{2}$ x 4	6 x 6 x 1 $\frac{1}{2}$
2 x 2 x 1 $\frac{1}{4}$	2 $\frac{1}{2}$ x 2 $\frac{1}{2}$ x $\frac{1}{2}$	3 x 2 $\frac{1}{2}$ x $\frac{3}{4}$	4 x 4 x 3 $\frac{1}{2}$	3 x 3 x 4	6 x 6 x 1 $\frac{1}{4}$
2 x 2 x 1	2 $\frac{1}{2}$ x 2 x 2 $\frac{1}{2}$	3 x 2 x 3	4 x 4 x 3	2 $\frac{1}{2}$ x 2 $\frac{1}{2}$ x 4	6 x 6 x 1
2 x 2 x $\frac{3}{4}$	2 $\frac{1}{2}$ x 2 x 2	3 x 2 x 2 $\frac{1}{2}$	4 x 4 x 2 $\frac{1}{2}$	2 x 2 x 4	6 x 5 x 6
2 x 2 x $\frac{1}{2}$	2 $\frac{1}{2}$ x 2 x 1 $\frac{1}{2}$	3 x 2 x 2	4 x 4 x 2	...	6 x 5 x 5
2 x 2 x $\frac{1}{4}$	2 $\frac{1}{2}$ x 2 x 1 $\frac{1}{4}$	3 x 2 x 1 $\frac{1}{2}$	4 x 4 x 1 $\frac{1}{2}$	5 x 5 x 4	6 x 5 x 4
2 x 1 $\frac{1}{2}$ x 2	2 $\frac{1}{2}$ x 2 x 1	3 x 2 x 1 $\frac{1}{4}$	4 x 4 x 1 $\frac{1}{4}$	5 x 5 x 3 $\frac{1}{2}$	6 x 5 x 3 $\frac{1}{2}$
2 x 1 $\frac{1}{2}$ x 1 $\frac{1}{2}$	2 $\frac{1}{2}$ x 2 x $\frac{3}{4}$	3 x 2 x 1	4 x 4 x 1	5 x 5 x 3	6 x 5 x 3
2 x 1 $\frac{1}{2}$ x 1 $\frac{1}{4}$	2 $\frac{1}{2}$ x 2 x $\frac{1}{2}$	3 x 1 $\frac{1}{2}$ x 3	4 x 4 x $\frac{3}{4}$	5 x 5 x 2 $\frac{1}{2}$	6 x 5 x 2 $\frac{1}{2}$
2 x 1 $\frac{1}{2}$ x 1	2 $\frac{1}{2}$ x 1 $\frac{1}{2}$ x 2 $\frac{1}{2}$	3 x 1 $\frac{1}{2}$ x 2 $\frac{1}{2}$	4 x 3 $\frac{1}{2}$ x 4	5 x 5 x 2	6 x 5 x 2
2 x 1 $\frac{1}{2}$ x $\frac{3}{4}$	2 $\frac{1}{2}$ x 1 $\frac{1}{2}$ x 2	3 x 1 $\frac{1}{2}$ x 2	4 x 3 $\frac{1}{2}$ x 3 $\frac{1}{2}$	5 x 5 x 1 $\frac{1}{2}$	6 x 5 x 1 $\frac{1}{2}$
2 x 1 $\frac{1}{2}$ x $\frac{1}{2}$	2 $\frac{1}{2}$ x 1 $\frac{1}{2}$ x 1 $\frac{1}{2}$	3 x 1 $\frac{1}{4}$ x 3	4 x 3 $\frac{1}{2}$ x 3	5 x 5 x 1 $\frac{1}{4}$	6 x 4 x 6
2 x 1 $\frac{1}{4}$ x 2	2 $\frac{1}{2}$ x 1 $\frac{1}{2}$ x 1 $\frac{1}{4}$	3 x 1 x 3	4 x 3 $\frac{1}{2}$ x 2 $\frac{1}{2}$	5 x 5 x 1	6 x 4 x 4
2 x 1 $\frac{1}{4}$ x 1 $\frac{1}{2}$	2 $\frac{1}{2}$ x 1 $\frac{1}{2}$ x 1	2 $\frac{1}{2}$ x 2 $\frac{1}{2}$ x 3	4 x 3 $\frac{1}{2}$ x 2	5 x 5 x $\frac{3}{4}$	6 x 4 x 3
2 x 1 $\frac{1}{4}$ x 1 $\frac{1}{4}$	2 $\frac{1}{2}$ x 1 $\frac{1}{4}$ x 2 $\frac{1}{2}$	2 $\frac{1}{2}$ x 2 x 3	4 x 3 $\frac{1}{2}$ x 1 $\frac{1}{2}$	5 x 4 x 5	6 x 3 x 6
2 x 1 $\frac{1}{4}$ x 1	2 $\frac{1}{2}$ x 1 $\frac{1}{4}$ x 2	2 $\frac{1}{2}$ x 1 $\frac{1}{2}$ x 3	4 x 3 $\frac{1}{2}$ x 1 $\frac{1}{4}$	5 x 4 x 4	6 x 2 $\frac{1}{2}$ x 6
2 x 1 $\frac{1}{4}$ x $\frac{3}{4}$	2 $\frac{1}{2}$ x 1 $\frac{1}{4}$ x 1 $\frac{1}{2}$	2 x 2 x 3	4 x 3 $\frac{1}{2}$ x 1	5 x 4 x 3 $\frac{1}{2}$	6 x 2 x 6
2 x 1 x 2	2 $\frac{1}{2}$ x 1 x 2 $\frac{1}{2}$	...	4 x 3 x 4	5 x 4 x 3	5 x 5 x 6
2 x 1 x 1 $\frac{1}{2}$	2 $\frac{1}{2}$ x 1 x 2	3 $\frac{1}{2}$ x 3 $\frac{1}{2}$ x 3	4 x 3 x 3 $\frac{1}{2}$	5 x 4 x 2 $\frac{1}{2}$	5 x 3 $\frac{1}{2}$ x 6
2 x 1 x 1 $\frac{1}{4}$	2 $\frac{1}{2}$ x $\frac{3}{4}$ x 2 $\frac{1}{2}$	3 $\frac{1}{2}$ x 3 $\frac{1}{2}$ x 2 $\frac{1}{2}$	4 x 3 x 3	5 x 4 x 2	4 x 4 x 6
2 x 1 x 1	2 $\frac{1}{2}$ x $\frac{1}{2}$ x 2 $\frac{1}{2}$	3 $\frac{1}{2}$ x 3 $\frac{1}{2}$ x 2	4 x 3 x 2 $\frac{1}{2}$	5 x 4 x 1 $\frac{1}{2}$	...
2 x 1 x $\frac{3}{4}$	2 x 2 x 2 $\frac{1}{2}$	3 $\frac{1}{2}$ x 3 $\frac{1}{2}$ x 1 $\frac{1}{2}$	4 x 3 x 2	5 x 3 $\frac{1}{2}$ x 3 $\frac{1}{2}$	8 x 8 x 6
2 x $\frac{3}{4}$ x 2	2 x 1 $\frac{1}{2}$ x 2 $\frac{1}{2}$	3 $\frac{1}{2}$ x 3 $\frac{1}{2}$ x 1 $\frac{1}{4}$	4 x 3 x 1 $\frac{1}{2}$	5 x 3 x 5	8 x 8 x 5
3 x $\frac{3}{4}$ x 1 $\frac{1}{2}$	2 x 1 $\frac{1}{4}$ x 2 $\frac{1}{2}$	3 $\frac{1}{2}$ x 3 $\frac{1}{2}$ x 1	4 x 3 x 1 $\frac{1}{4}$	5 x 3 x 4	8 x 8 x 4
2 x $\frac{1}{2}$ x 1 $\frac{1}{2}$	2 x 1 x 2 $\frac{1}{2}$	3 $\frac{1}{2}$ x 3 $\frac{1}{2}$ x $\frac{3}{4}$	4 x 3 x 1	5 x 3 x 3 $\frac{1}{2}$	8 x 8 x 3 $\frac{1}{2}$
2 x $\frac{1}{4}$ x 2	2 x $\frac{3}{4}$ x 2 $\frac{1}{2}$	3 $\frac{1}{2}$ x 3 x 3 $\frac{1}{2}$	4 x 3 x $\frac{3}{4}$	5 x 3 x 3	8 x 8 x 3
2 x $\frac{1}{2}$ x 2	1 $\frac{1}{2}$ x 1 $\frac{1}{2}$ x 2 $\frac{1}{2}$	3 $\frac{1}{2}$ x 3 x 3	4 x 2 $\frac{1}{2}$ x 4	5 x 3 x 2 $\frac{1}{2}$	8 x 8 x 2 $\frac{1}{2}$
1 $\frac{1}{2}$ x 1 $\frac{1}{2}$ x 2	1 $\frac{1}{2}$ x 1 $\frac{1}{4}$ x 2 $\frac{1}{2}$	3 $\frac{1}{2}$ x 3 x 2 $\frac{1}{2}$	4 x 2 $\frac{1}{2}$ x 3 $\frac{1}{2}$	5 x 3 x 2	8 x 8 x 2
1 $\frac{1}{2}$ x 1 $\frac{1}{4}$ x 2	1 $\frac{1}{2}$ x 1 x 2 $\frac{1}{2}$	3 $\frac{1}{2}$ x 3 x 2	4 x 2 $\frac{1}{2}$ x 3	5 x 2 $\frac{1}{2}$ x 5	8 x 8 x 1 $\frac{1}{2}$
1 $\frac{1}{2}$ x 1 x 2	...	3 $\frac{1}{2}$ x 3 x 1 $\frac{1}{2}$	4 x 2 $\frac{1}{2}$ x 2 $\frac{1}{2}$	5 x 2 $\frac{1}{2}$ x 4	8 x 8 x 1 $\frac{1}{4}$
1 $\frac{1}{2}$ x $\frac{3}{4}$ x 2	3 x 3 x 2 $\frac{1}{2}$	3 $\frac{1}{2}$ x 3 x 1 $\frac{1}{4}$	4 x 2 $\frac{1}{2}$ x 2	5 x 2 $\frac{1}{2}$ x 3	8 x 6 x 8
1 $\frac{1}{4}$ x 1 $\frac{1}{2}$ x 2	3 x 3 x 2	3 $\frac{1}{2}$ x 3 x 1	4 x 2 $\frac{1}{2}$ x 1 $\frac{1}{2}$	5 x 2 x 5	8 x 6 x 6
1 $\frac{1}{4}$ x 1 x 2	3 x 3 x 1 $\frac{1}{2}$	3 $\frac{1}{2}$ x 3 x $\frac{3}{4}$	4 x 2 $\frac{1}{2}$ x 1 $\frac{1}{4}$	5 x 1 $\frac{1}{2}$ x 5	8 x 5 x 8
1 $\frac{1}{4}$ x $\frac{3}{4}$ x 2	3 x 3 x 1 $\frac{1}{4}$	3 $\frac{1}{2}$ x 2 $\frac{1}{2}$ x 3 $\frac{1}{2}$	4 x 2 $\frac{1}{2}$ x 1	5 x 1 $\frac{1}{4}$ x 5	8 x 5 x 5
1 x 1 x 2	3 x 3 x 1	3 $\frac{1}{2}$ x 2 $\frac{1}{2}$ x 3	4 x 2 x 4	4 x 4 x 5	8 x 4 x 8
1 x $\frac{3}{4}$ x 2	3 x 3 x $\frac{3}{4}$	3 $\frac{1}{2}$ x 2 $\frac{1}{2}$ x 2 $\frac{1}{2}$	4 x 2 x 3	...	8 x 4 x 6
$\frac{3}{4}$ x $\frac{3}{4}$ x 2	3 x 3 x $\frac{1}{2}$	3 $\frac{1}{2}$ x 2 $\frac{1}{2}$ x 2	4 x 2 x 2 $\frac{1}{2}$	6 x 6 x 5	6 x 6 x 8
...	3 x 2 $\frac{1}{2}$ x 3	3 $\frac{1}{2}$ x 2 x 3 $\frac{1}{2}$	4 x 2 x 2	6 x 6 x 4	...
2 $\frac{1}{2}$ x 2 $\frac{1}{2}$ x 2	3 x 2 $\frac{1}{2}$ x 2 $\frac{1}{2}$	3 $\frac{1}{2}$ x 1 $\frac{1}{2}$ x 3 $\frac{1}{2}$	4 x 2 x 1 $\frac{1}{2}$	6 x 6 x 3 $\frac{1}{2}$	...

THOMAS ROBERTSON & COMPANY, LIMITED

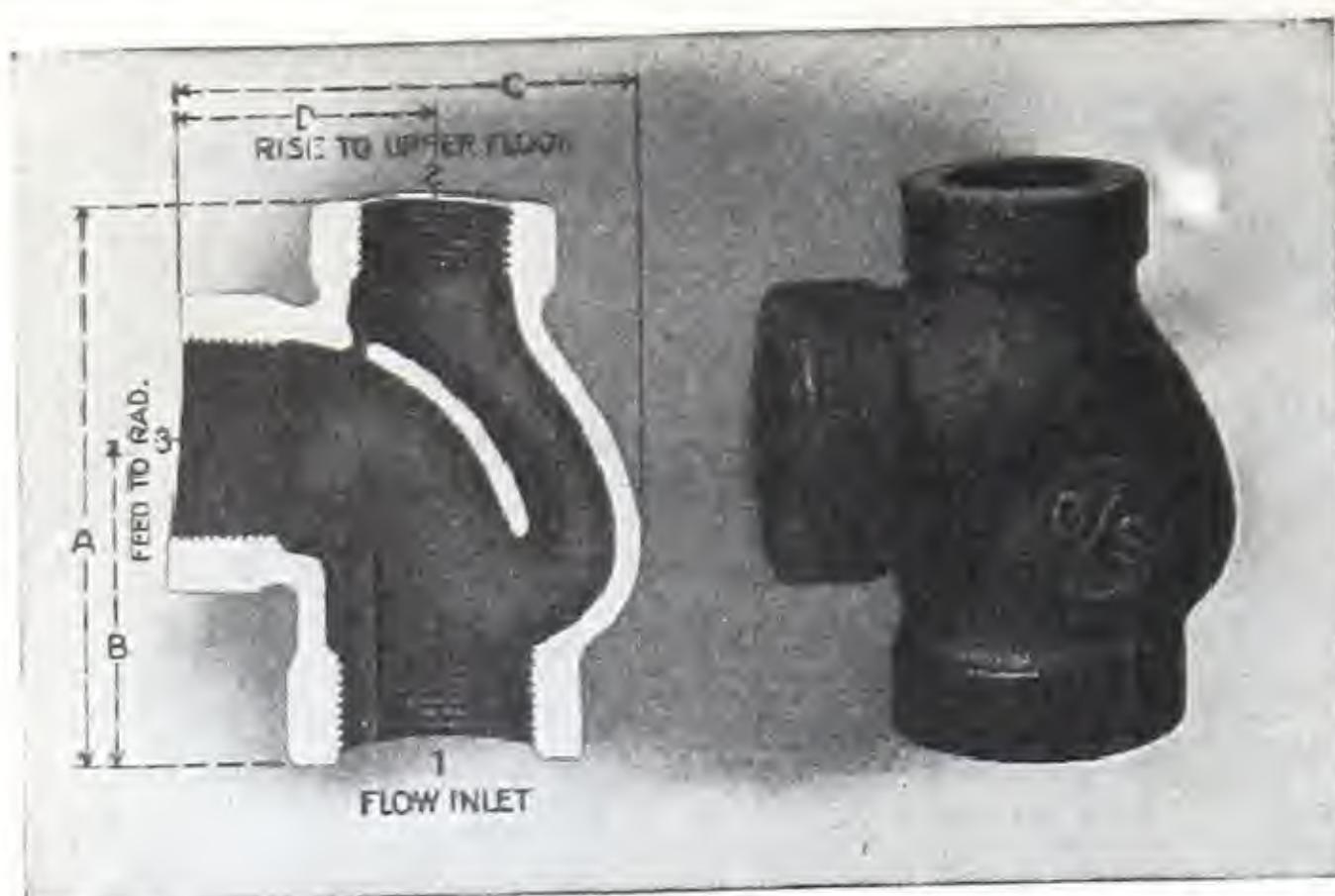


Fig. G-116

Standard C. I. Screwed Fittings

For 125 lbs. Steam Working Pressure

"O. S." Distributer
For Hot Water heating and
Domestic Hot Water Supply

Saves Fittings and Labor.

*Prevents short circuiting. Ensures
uniform circulation of hot water.*

Tappings 1—2—3	List Price	Tappings 1—2—3	List Price	Tappings 1—2—3	List Price	Tappings 1—2—3	List Price	Tappings 1—2—3	List Price
	..	1" x $\frac{3}{4}$ " x 1"	.80	1 $\frac{1}{4}$ " x 1 $\frac{1}{4}$ " x 1"	.90	1 $\frac{1}{2}$ " x 1 $\frac{1}{2}$ " x 1"	1.10	2" x 1 $\frac{1}{2}$ " x 1 $\frac{1}{2}$ "	1.30
1" x $\frac{1}{2}$ " x $\frac{1}{2}$ "	.60	1" x 1" x $\frac{1}{2}$ "	.80	1 $\frac{1}{4}$ " x 1 $\frac{1}{4}$ " x 1 $\frac{1}{4}$ "	.90	1 $\frac{1}{2}$ " x 1 $\frac{1}{2}$ " x 1 $\frac{1}{4}$ "	1.10	2" x 2" x 1"	1.50
1" x $\frac{3}{4}$ " x $\frac{1}{2}$ "	.60	1" x 1" x $\frac{3}{4}$ "	.80	1 $\frac{1}{2}$ " x 1" x 1"	1.00	1 $\frac{1}{2}$ " x 1 $\frac{1}{2}$ " x 1 $\frac{1}{2}$ "	1.10	2" x 2" x 1 $\frac{1}{4}$ "	1.50
1" x $\frac{1}{2}$ " x $\frac{3}{4}$ "	.60	1" x 1" x 1"	.80	1 $\frac{1}{2}$ " x 1" x 1 $\frac{1}{4}$ "	1.00	2" x 1 $\frac{1}{4}$ " x 1"	1.30	2" x 2" x 1 $\frac{1}{2}$ "	1.50
1" x $\frac{1}{2}$ " x $\frac{1}{2}$ "	.70	1 $\frac{1}{4}$ " x 1" x $\frac{3}{4}$ "	.90	1 $\frac{1}{2}$ " x 1 $\frac{1}{4}$ " x $\frac{3}{4}$ "	1.00	2" x 1 $\frac{1}{4}$ " x 1 $\frac{1}{4}$ "	1.30	2" x 2" x 2"	1.50
1" x $\frac{1}{2}$ " x $\frac{3}{4}$ "	.70	1 $\frac{1}{4}$ " x 1" x 1"	.90	1 $\frac{1}{2}$ " x 1 $\frac{1}{4}$ " x 1"	1.00	2" x 1 $\frac{1}{4}$ " x 1 $\frac{1}{2}$ "	1.30	2 $\frac{1}{2}$ " x 1 $\frac{1}{2}$ " x 1 $\frac{1}{2}$ "	1.75
1" x $\frac{3}{4}$ " x $\frac{1}{2}$ "	.70	1 $\frac{1}{4}$ " x 1" x 1 $\frac{1}{4}$ "	.90	1 $\frac{1}{2}$ " x 1 $\frac{1}{4}$ " x 1 $\frac{1}{4}$ "	1.10	2" x 1 $\frac{1}{2}$ " x 1"	1.30	2 $\frac{1}{2}$ " x 2" x 1 $\frac{1}{2}$ "	1.75
1" x $\frac{3}{4}$ " x $\frac{3}{4}$ "	.70	1 $\frac{1}{4}$ " x 1 $\frac{1}{4}$ " x $\frac{3}{4}$ "	.90	1 $\frac{1}{2}$ " x 1 $\frac{1}{4}$ " x 1 $\frac{1}{2}$ "	1.10	2" x 1 $\frac{1}{2}$ " x 1 $\frac{1}{4}$ "	1.30	2 $\frac{1}{2}$ " x 2" x 2"	1.75

Crosses



Fig. G-117

Size, inches	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$
Black .....	.16	.22	.27	.42	.53	.75	1.30
Galv'd. ....	.32	.44	.54	.84	1.06	1.50	2.60

Size, inches	3	$3\frac{1}{2}$	4	5	6	8
Black	2.00	2.70	3.15	5.50	7.25	17.50
Galv'd.	4.00	5.40	6.30	11.00	14.50	35.00

Reducing Crosses

The largest opening determines the list price.



Fig. G-118

Size, inches	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$
Black .....	.18	.25	.30	.46	.60	.83	1.45
Galv'd. ....	.36	.50	.60	.92	1.20	1.66	2.90

Size, inches	3	$3\frac{1}{2}$	4	5	6	8
Black	2.20	3.00	3.50	6.00	8.00	19.25
Galv'd.	4.40	6.00	7.00	12.00	16.00	38.50

Standard Cast Iron Screwed Fittings

For 125 lbs. Steam Working Pressure

Crosses—Reducing Sizes

In describing Crosses, the run openings are first named, and then the outlets.

1
—
2 ————— 1 $\frac{1}{2}$
—
1

1 $\frac{1}{2}$
—
2 ————— 2
—
1 $\frac{1}{4}$

1 $\frac{1}{4}$
—
2 ————— 2
—
1 $\frac{1}{4}$

reads 2 x 1 $\frac{1}{2}$ x 1 x 1

reads 2 x 2 x 1 $\frac{1}{2}$ x 1 $\frac{1}{4}$

reads 2 x 2 x 1 $\frac{1}{4}$ x 1 $\frac{1}{4}$

$\frac{3}{4}$ x $\frac{3}{4}$ x $\frac{1}{2}$ x $\frac{1}{2}$	$2\frac{1}{2}$ x $2\frac{1}{2}$ x 2 x 2	3 x $2\frac{1}{2}$ x 2 x 1	4 x $3\frac{1}{2}$ x $2\frac{1}{2}$ x 2
$\frac{3}{4}$ x $\frac{1}{2}$ x $\frac{1}{2}$ x $\frac{1}{2}$	$2\frac{1}{2}$ x $2\frac{1}{2}$ x $1\frac{1}{2}$ x $1\frac{1}{2}$	3 x $2\frac{1}{2}$ x $2\frac{1}{2}$ x $1\frac{1}{2}$	4 x $3\frac{1}{2}$ x 2 x 2
1 x 1 x $\frac{3}{4}$ x $\frac{3}{4}$	$2\frac{1}{2}$ x $2\frac{1}{2}$ x $1\frac{1}{2}$ x $1\frac{1}{4}$	3 x $2\frac{1}{2}$ x $1\frac{1}{2}$ x $1\frac{1}{4}$	4 x $3\frac{1}{2}$ x 2 x $1\frac{1}{2}$
1 x 1 x $\frac{1}{2}$ x $\frac{1}{2}$	$2\frac{1}{2}$ x $2\frac{1}{2}$ x $1\frac{1}{4}$ x $1\frac{1}{4}$	3 x $2\frac{1}{2}$ x $1\frac{1}{2}$ x 1	4 x $3\frac{1}{2}$ x $1\frac{1}{4}$ x $1\frac{1}{2}$
1 x $\frac{1}{4}$ x $\frac{3}{4}$ x $\frac{3}{4}$	$2\frac{1}{2}$ x $2\frac{1}{2}$ x $1\frac{1}{4}$ x 1	3 x $2\frac{1}{2}$ x $1\frac{1}{4}$ x $1\frac{1}{4}$	4 x $3\frac{1}{2}$ x $1\frac{1}{4}$ x $1\frac{1}{4}$
$1\frac{1}{4}$ x $1\frac{1}{4}$ x 1 x 1	$2\frac{1}{2}$ x $2\frac{1}{2}$ x 1 x 1	3 x $2\frac{1}{2}$ x 1 x 1	4 x $3\frac{1}{2}$ x $1\frac{1}{4}$ x 1
$1\frac{1}{4}$ x $1\frac{1}{4}$ x $\frac{3}{4}$ x $\frac{3}{4}$	$2\frac{1}{2}$ x $2\frac{1}{2}$ x 1 x $\frac{3}{4}$	3 x 2 x 2 x 2	5 x 5 x 4 x 4
$1\frac{1}{4}$ x $1\frac{1}{4}$ x $\frac{1}{2}$ x $\frac{1}{2}$	$2\frac{1}{2}$ x $2\frac{1}{2}$ x $\frac{3}{4}$ x $\frac{3}{4}$	$3\frac{1}{2}$ x $3\frac{1}{2}$ x 3 x 3	5 x 5 x 3 x 3
$1\frac{1}{4}$ x 1 x 1 x 1	$2\frac{1}{2}$ x 2 x 2 x $1\frac{1}{2}$	$3\frac{1}{2}$ x $3\frac{1}{2}$ x $2\frac{1}{2}$ x $2\frac{1}{2}$	5 x 5 x $2\frac{1}{2}$ x $2\frac{1}{2}$
$1\frac{1}{4}$ x 1 x $\frac{3}{4}$ x $\frac{3}{4}$	$2\frac{1}{2}$ x 2 x 2 x $1\frac{1}{4}$	$3\frac{1}{2}$ x $3\frac{1}{2}$ x 2 x 2	5 x 5 x 2 x 2
$1\frac{1}{4}$ x $\frac{3}{4}$ x $\frac{3}{4}$ x $\frac{3}{4}$	$2\frac{1}{2}$ x 2 x 2 x 1	$3\frac{1}{2}$ x $3\frac{1}{2}$ x $1\frac{1}{2}$ x $1\frac{1}{2}$	5 x 5 x 2 x $1\frac{1}{2}$
$1\frac{1}{2}$ x $1\frac{1}{2}$ x $1\frac{1}{4}$ x $1\frac{1}{4}$	$2\frac{1}{2}$ x 2 x $1\frac{1}{2}$ x $1\frac{1}{4}$	$3\frac{1}{2}$ x $3\frac{1}{2}$ x $1\frac{1}{2}$ x $1\frac{1}{2}$	5 x 5 x $1\frac{1}{2}$ x $1\frac{1}{2}$
$1\frac{1}{2}$ x $1\frac{1}{2}$ x 1 x 1	$2\frac{1}{2}$ x 2 x $1\frac{1}{2}$ x 1	$3\frac{1}{2}$ x $3\frac{1}{2}$ x $1\frac{1}{2}$ x $1\frac{1}{4}$	5 x 5 x $1\frac{1}{2}$ x $1\frac{1}{4}$
$1\frac{1}{2}$ x $1\frac{1}{2}$ x $\frac{3}{4}$ x $\frac{3}{4}$	$2\frac{1}{2}$ x 2 x $1\frac{1}{2}$ x $\frac{3}{4}$	$3\frac{1}{2}$ x $3\frac{1}{2}$ x 1 x 1	5 x 5 x 1 x 1
$1\frac{1}{2}$ x $1\frac{1}{2}$ x $\frac{1}{2}$ x $\frac{1}{2}$	$2\frac{1}{2}$ x 2 x $1\frac{1}{4}$ x $\frac{1}{2}$	$3\frac{1}{2}$ x $3\frac{1}{2}$ x $1\frac{1}{4}$ x $1\frac{1}{4}$	5 x 4 x 2 x 2
$1\frac{1}{2}$ x $1\frac{1}{2}$ x $1\frac{1}{4}$ x 1	$2\frac{1}{2}$ x 2 x $1\frac{1}{4}$ x 1	$3\frac{1}{2}$ x $3\frac{1}{2}$ x $1\frac{1}{4}$ x 1	5 x 4 x 2 x $1\frac{1}{2}$
$1\frac{1}{2}$ x $1\frac{1}{2}$ x 1 x 1	$2\frac{1}{2}$ x 2 x 1 x 1	$3\frac{1}{2}$ x $3\frac{1}{2}$ x 1 x 1	5 x 4 x $1\frac{1}{2}$ x $1\frac{1}{2}$
$1\frac{1}{2}$ x $1\frac{1}{2}$ x $\frac{3}{4}$ x $\frac{3}{4}$	$2\frac{1}{2}$ x 2 x 1 x $\frac{3}{4}$	$3\frac{1}{2}$ x 3 x $2\frac{1}{2}$ x 2	5 x 4 x $1\frac{1}{2}$ x $1\frac{1}{4}$
$1\frac{1}{2}$ x 1 x 1 x $\frac{3}{4}$	$2\frac{1}{2}$ x 2 x $\frac{3}{4}$ x $\frac{3}{4}$	$3\frac{1}{2}$ x 3 x 2 x 2	5 x 4 x $1\frac{1}{4}$ x 1
$1\frac{1}{2}$ x 1 x 1 x $\frac{1}{2}$	$2\frac{1}{2}$ x 1 $\frac{1}{2}$ x 2 x $1\frac{1}{2}$	$3\frac{1}{2}$ x 3 x 2 x $1\frac{1}{2}$	5 x 4 x 1 x 1
$1\frac{1}{2}$ x 1 x $\frac{3}{4}$ x $\frac{3}{4}$	$2\frac{1}{2}$ x 1 $\frac{1}{2}$ x 1 $\frac{1}{2}$ x 1	$3\frac{1}{2}$ x 3 x 2 x $1\frac{1}{4}$	5 x 4 x $1\frac{1}{2}$ x 1
2 x 2 x $1\frac{1}{2}$ x $1\frac{1}{2}$	$2\frac{1}{2}$ x 1 $\frac{1}{2}$ x $1\frac{1}{4}$ x $1\frac{1}{4}$	$3\frac{1}{2}$ x 3 x $1\frac{1}{2}$ x $1\frac{1}{2}$	6 x 6 x 5 x 5
2 x 2 x $1\frac{1}{4}$ x $1\frac{1}{4}$	3 x 3 x $2\frac{1}{2}$ x $2\frac{1}{2}$	$3\frac{1}{2}$ x 3 x $1\frac{1}{2}$ x $1\frac{1}{4}$	6 x 6 x 4 x 4
2 x 2 x $1\frac{1}{8}$ x 1	3 x 3 x 2 x 2	$3\frac{1}{2}$ x 3 x $1\frac{1}{2}$ x 1	6 x 6 x 3 x 3
2 x 2 x 1 x 1	3 x 3 x 2 x $1\frac{1}{2}$	$3\frac{1}{2}$ x 3 x $1\frac{1}{4}$ x $1\frac{1}{4}$	6 x 6 x $2\frac{1}{2}$ x $2\frac{1}{2}$
2 x 2 x 1 x $\frac{3}{4}$	3 x 3 x 2 x 1	$3\frac{1}{2}$ x 3 x $1\frac{1}{4}$ x 1	6 x 6 x 2 x 2
2 x 2 x $\frac{3}{4}$ x $\frac{3}{4}$	3 x 3 x $1\frac{1}{2}$ x $1\frac{1}{2}$	$3\frac{1}{2}$ x 3 x 1 x 1	6 x 6 x $2\frac{1}{2}$ x $1\frac{1}{2}$
2 x 2 x $\frac{1}{2}$ x $\frac{1}{2}$	3 x 3 x $1\frac{1}{2}$ x $1\frac{1}{4}$	4 x 4 x $3\frac{1}{2}$ x $3\frac{1}{2}$	6 x 5 x 2 x 2
2 x $1\frac{1}{2}$ x $1\frac{1}{2}$ x $1\frac{1}{2}$	3 x 3 x $1\frac{1}{2}$ x 1	4 x 4 x 3 x 3	6 x 5 x 2 x $1\frac{1}{2}$
2 x $1\frac{1}{2}$ x $1\frac{1}{4}$ x $1\frac{1}{4}$	3 x 3 x $1\frac{1}{2}$ x $\frac{3}{4}$	4 x 4 x $2\frac{1}{2}$ x $2\frac{1}{2}$	6 x 5 x $1\frac{1}{2}$ x $1\frac{1}{2}$
2 x $1\frac{1}{2}$ x $1\frac{1}{4}$ x 1	3 x 3 x $1\frac{1}{4}$ x $1\frac{1}{4}$	4 x 4 x 2 x 2	
2 x $1\frac{1}{2}$ x 1 x 1	3 x 3 x $1\frac{1}{4}$ x 1	4 x 4 x 2 x $1\frac{1}{2}$	8 x 8 x 6 x 6
2 x $1\frac{1}{2}$ x 1 x $\frac{3}{4}$	3 x 3 x $1\frac{1}{4}$ x $\frac{3}{4}$	4 x 4 x $1\frac{1}{2}$ x $1\frac{1}{2}$	8 x 8 x 5 x 5
2 x $1\frac{1}{2}$ x $\frac{3}{4}$ x $\frac{3}{4}$	3 x 3 x 1 x 1	4 x 4 x $1\frac{1}{2}$ x $1\frac{1}{4}$	8 x 8 x 4 x 4
2 x $1\frac{1}{4}$ x 1 x $\frac{3}{4}$	3 x 3 x $\frac{3}{4}$ x $\frac{3}{4}$	4 x 4 x $1\frac{1}{2}$ x 1	
2 x 1 x $1\frac{1}{2}$ x 1	3 x 2 $\frac{1}{2}$ x $2\frac{1}{2}$ x 2	4 x 4 x $1\frac{1}{4}$ x $1\frac{1}{4}$	10 x 10 x 8 x 8
	3 x 2 $\frac{1}{2}$ x $2\frac{1}{2}$ x $1\frac{1}{2}$	4 x 4 x $1\frac{1}{4}$ x 1	
	3 x 2 $\frac{1}{2}$ x 2 x 2	4 x 4 x $1\frac{1}{4}$ x 1	12 x 12 x 10 x 10
	3 x 2 $\frac{1}{2}$ x 2 x $1\frac{1}{2}$	4 x 4 x 1 x 1	12 x 12 x 8 x 8
	3 x 2 $\frac{1}{2}$ x 2 x $1\frac{1}{4}$		
	3 x 2 $\frac{1}{2}$ x 2 x 1		

Standard Cast Iron Screwed Fittings

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Return Bends — Close pattern

Size, inches . . .	$\frac{1}{4}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Centres	$1\frac{1}{4}''$	$1\frac{1}{2}''$	$1\frac{3}{4}''$	$2\frac{1}{4}''$	$2\frac{1}{2}''$	$3\frac{1}{4}''$
R.H. Black . . . . .	.18	.20	.22	.28	.40	.57
" Galv'd. . . . .	.36	.40	.44	.56	.80	1.14
R. & L. Black . . . . .	.21	.23	.26	.33	.46	.66
" Galv'd. . . . .	.42	.46	.52	.66	.92	.132



Fig. G-119

Size, inches . . .	$2\frac{1}{2}$	3	4	Pitched	1"
Centres	$3\frac{3}{4}''$	$4\frac{1}{4}''$	6"	Centres	$1\frac{1}{4}''$
R.H. Black	1.20	1.70	5.00	R.H. Black . . . . .	.26
" Galv'd.	2.40	3.40	10.00	" Galv'd. . . . .	.52
R. & L. Black	1.40	1.95	5.25		..
" Galv'd.	2.80	3.90	10.50		..

Return Bends — Open pattern

Size, inches . . .	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	4
Centres	$1\frac{7}{8}''$	$2\frac{3}{8}''$	3"	$3\frac{1}{2}''$	$4\frac{1}{2}''$	$5\frac{1}{2}''$	$6\frac{1}{2}''$	$7\frac{1}{2}''$
R.H. Black . . . . .	.26	.30	.40	.55	.80	1.35	2.20	6.50
" Galv'd. . . . .	.52	.60	.80	1.10	1.60	2.70	4.40	10.00
R. & L. Black . . . . .	.30	.35	.46	.64	.92	1.55	2.50	..
" Galv'd. . . . .	.60	.70	.92	1.28	1.84	3.10	5.00	..

Return Bends — Back Outlet

Supplied Open or Close at same list prices.

Size, inches . . .	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
R.H. Black . . . . .	.38	.42	.60	.80	1.15	2.00	3.00
" Galv'd. . . . .	.76	.84	1.20	1.60	2.30	4.00	6.00
R. & L. Black . . . . .	.42	.48	.70	.95	1.30	2.30	3.50
Reducing . . . . .	..	..	.48	.70	.95	1.30	2.30
							3.50

Fig. G-121

The back outlet of "Right & Left" Return Bends is tapped right hand.

Standard Cast Iron Screwed Fittings

For 125 lbs. Steam Working Pressure

Reducing Couplings



Fig. G-122

Size, inches . . .	5×2	5×2½	5×3	5×3½	5×4	6×2
Black	2.00	2.00	2.00	2.00	2.00	2.70
Galv'd	4.00	4.00	4.00	4.00	4.00	5.40

Size, inches . . .	6×2½	6×3	6×3½	6×4	6×5	8×4	8×6
Black	2.70	2.70	2.70	2.70	2.70	6.75	6.75
Galv'd	5.40	5.40	5.40	5.40	5.40	13.50	13.50

For smaller sizes see Malleable Iron, page 51.

Eccentric Reducing Couplings



Fig. G-123

Size, inches	1½×¾	1½×1	1½×1	1½×1½	2×¾	2×1	2×1½
Black . . . . .	.55	.55	.72	.72	1.00	1.00	1.00
Size, inches	2×1½	2½×1½	2½×1½	2½×2	3×1½	3×2	3×2½
Black	1.00	1.50	1.50	1.50	2.40	2.40	3.00
Size, inches	3½×1½	3½×2	3½×2½	3½×3	4×2	4×2½	4×3
Black	3.00	3.00	3.00	3.00	4.00	4.00	4.00
					4.00	4.00	4.00
Size, inches	4×3	4×3½	5×2	5×2½	6×5	8×5	8×6
Black	4.00	4.00	6.00	6.00	8.00	11.00	11.00

Caps



Fig. G-124

Size, inches	4	5	6	8	10	12
Black . . . . .	.87	1.20	1.55	2.85	5.50	7.00
Galv'd	1.74	2.40	3.10	5.70	11.00	14.00

For smaller sizes see Malleable Iron, page 52.

Lock-nuts



Fig. G-125

Size, inches . . .	2½	3	3½	4	5	6	8
Black . . . . .	.27	.34	.47	.64	.90	1.30	2.35
Galv'd . . . . .	.54	.68	.94	1.28	1.80	2.60	4.70

For smaller sizes see Malleable Iron, page 52.

Standard Cast Iron Screwed Fittings

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Fig. G-126
Square Head



Fig. G-127
Countersunk



Fig. G-128

Plugs

Size, inches	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$
Sq. Head, R.H. Black	.02	.02	.02	.02	.03	.04	.05	.07
" " Galv'd.	.04	.04	.04	.04	.06	.08	.10	.14
" " L.H. Black	..	..	..	.04	.06	.08	.09	.11
Countersunk "	..	..	..	.04	.06	.08	.09	.11

Size, inches	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	5	6	8
Sq. Head, R.H. Black	.10	.18	.25	.38	.42	.88	1.20	2.75
" " Galv'd.	.20	.36	.50	.76	.84	1.76	2.40	5.50
" " L.H. Black	.15	..	..	..	..	..	..	..
Countersunk "	.15	.30	.40	.92	1.10	2.00	3.50	..

Bushings (Standard)

Size, inches	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
R.H. Black .....	.04	.04	.04	.05	.06	.07	.09	.14
" Galv'd. ....	.08	.08	.08	.10	.12	.14	.18	.28
L.H. or R. & L. (Black)	..	..	..	10	.12	.14	.18	.28

Size, inches	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	5	6	8
R. H. Black .....	.21	.30	.40	.50	.93	1.25	2.75
" Galv'd. ....	.42	.60	.80	1.00	1.85	2.50	5.50
L. H. or R. & L. (Black)	.42	.60	..	..	..	..	..

Bushings reducing one size only, up to and including $2\frac{1}{2}$ ", are Malleable.

Bushings (List of Sizes)

$\frac{1}{4} \times \frac{1}{8}$	$1 \times \frac{3}{4}$	$2 \times \frac{1}{4}$	$3 \times \frac{1}{2}$	4×1	$6 \times 1\frac{1}{2}$
$\frac{3}{8} \times \frac{1}{8}$	$1\frac{1}{4} \times \frac{1}{4}$	$2 \times \frac{3}{8}$	$3 \times \frac{1}{2}$	$4 \times 1\frac{1}{4}$	6×2
$\frac{3}{8} \times \frac{1}{4}$	$1\frac{1}{4} \times \frac{3}{8}$	$2 \times \frac{3}{4}$	$3 \times 1\frac{1}{4}$	$4 \times 1\frac{1}{2}$	$6 \times 2\frac{1}{2}$
$\frac{1}{2} \times \frac{1}{4}$	$1\frac{1}{4} \times \frac{1}{2}$	2×1	$3 \times 1\frac{1}{2}$	4×2	6×3
$\frac{1}{2} \times \frac{3}{8}$	$1\frac{1}{4} \times \frac{3}{4}$	$2 \times 1\frac{1}{4}$	3×2	$4 \times 2\frac{1}{2}$	$6 \times 3\frac{1}{2}$
	$1\frac{1}{4} \times 1$	$2 \times 1\frac{1}{2}$	$3 \times 2\frac{1}{2}$	4×3	6×4
				$4 \times 3\frac{1}{2}$	6×5
$\frac{3}{4} \times \frac{1}{4}$	$1\frac{1}{2} \times \frac{1}{4}$	$2\frac{1}{2} \times \frac{1}{2}$	$3\frac{1}{2} \times 1$	5×2	8×2
$\frac{3}{4} \times \frac{3}{8}$	$1\frac{1}{2} \times \frac{3}{8}$	$2\frac{1}{2} \times \frac{3}{4}$	$3\frac{1}{2} \times 1\frac{1}{4}$	$5 \times 2\frac{1}{2}$	$8 \times 2\frac{1}{2}$
$\frac{3}{4} \times \frac{1}{2}$	$1\frac{1}{2} \times \frac{1}{2}$	$2\frac{1}{2} \times 1$	$3\frac{1}{2} \times 1\frac{1}{2}$	5×3	8×3
$1 \times \frac{1}{4}$	$1\frac{1}{2} \times \frac{3}{4}$	$2\frac{1}{2} \times 1\frac{1}{4}$	$3\frac{1}{2} \times 2$	$5 \times 3\frac{1}{2}$	8×4
$1 \times \frac{3}{8}$	$1\frac{1}{2} \times 1\frac{1}{4}$	$2\frac{1}{2} \times 2$	$3\frac{1}{2} \times 2\frac{1}{2}$	5×4	8×5
$1 \times \frac{1}{2}$			$3\frac{1}{2} \times 3$		8×6

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Face Bushings



Fig. G-129

Size, inches	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
R.H. Black08	.08	.09	.11	.13	.17	.22	.32
" Galv'd. . . . .	.12	.12	.14	.17	.20	.25	.33	.48

Size, inches	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	5	6	8
R.H. Black . . . . .	.48	.70	1.20	1.50	2.60	3.75	9.00
" Galv'd. . . . .	.72	1.05	1.80	2.25	3.90	5.60	13.50

List of Sizes. *The larger diameter determines the list price.*

$*\frac{3}{8} \times \frac{1}{4}$	$1 \times \frac{3}{8}$	$1\frac{1}{2} \times \frac{3}{8}$	2×1	$3 \times \frac{3}{4}$	$3\frac{1}{2} \times 2$	$*4 \times 3\frac{1}{2}$	6×3
$*\frac{1}{2} \times \frac{1}{4}$	$1 \times \frac{1}{2}$	$1\frac{1}{2} \times \frac{1}{2}$	$2 \times 1\frac{1}{4}$	3×1	$3\frac{1}{2} \times 2\frac{1}{2}$	5×2	$6 \times 3\frac{1}{2}$
$*\frac{1}{2} \times \frac{3}{8}$	$1 \times \frac{3}{4}$ *	$1\frac{1}{2} \times \frac{3}{4}$	$2\frac{1}{2} \times 1\frac{1}{2}$	$3 \times 1\frac{1}{4}$	$3\frac{1}{2} \times 3*$	$5 \times 2\frac{1}{2}$	6×4
		$1\frac{1}{2} \times 1$		$3 \times 1\frac{1}{2}$			$6 \times 5*$
$\frac{3}{4} \times \frac{1}{4}$	$1\frac{1}{2} \times \frac{1}{4}$	$*1\frac{1}{2} \times 1\frac{1}{4}$	$2\frac{1}{2} \times \frac{3}{4}$	3×2	4×1	5×3	
$\frac{3}{4} \times \frac{3}{8}$	$1\frac{1}{2} \times \frac{3}{8}$		$2\frac{1}{2} \times 1$	$*3 \times 2\frac{1}{2}$	$4 \times 1\frac{1}{4}$	$5 \times 3\frac{1}{2}$	8×4
$*\frac{3}{4} \times \frac{1}{2}$	$1\frac{1}{2} \times \frac{1}{2}$	$2 \times \frac{1}{4}$	$2\frac{1}{2} \times 1\frac{1}{4}$		$4 \times 1\frac{1}{2}$	5×4	8×5
	$1\frac{1}{4} \times \frac{3}{8}$	$2 \times \frac{3}{8}$	$2\frac{1}{2} \times 1\frac{1}{2}$	$3\frac{1}{2} \times 1$	4×2		8×6
$1 \times \frac{1}{4}$	$1\frac{1}{4} \times 1*$	$2 \times \frac{1}{2}$	$*2\frac{1}{2} \times 2$	$3\frac{1}{2} \times 1\frac{1}{4}$	$4 \times 2\frac{1}{2}$	6×2	
		$2 \times \frac{3}{4}$		$3\frac{1}{2} \times 1\frac{1}{2}$	4×3	$6 \times 2\frac{1}{2}$	

*These sizes are Malleable Iron. The remaining sizes are Cast Iron.

Eccentric Bushings

Right Hand



Size, inches	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	4	5	6
Black, each . . . . .	.22	.25	.27	.42	.60	1.00	1.85	2.50

Left Hand, or R. & L. or L. & R.

Size, inches	$1\frac{1}{2}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Black, each . . . . .	.44	.50	.54	.84	1.20

List of Sizes

$1\frac{1}{4}'' \times \frac{1}{2}''$	$1\frac{1}{2}'' \times \frac{3}{8}''$	$2'' \times \frac{3}{8}''$	$2\frac{1}{2}'' \times 1''$	$3'' \times \frac{3}{4}''$	$3'' \times 2''$	$4'' \times 1\frac{1}{2}''$	$5'' \times 2''$
$1\frac{1}{4}'' \times \frac{3}{8}''$	$1\frac{1}{2}'' \times 1''$	$2'' \times 1''$	$2\frac{1}{2}'' \times 1\frac{1}{4}''$	$3'' \times 1''$	$4'' \times 1''$	$4'' \times 2''$	$5'' \times 4''$
$1\frac{1}{2}'' \times \frac{1}{2}''$	$2'' \times 1\frac{1}{4}''$		$2\frac{1}{2}'' \times 1\frac{1}{2}''$	$3'' \times 1\frac{1}{4}''$	$4'' \times 1\frac{1}{4}''$	$4'' \times 2\frac{1}{2}''$	

Hexagon Right & Left Nipples



Fig. G-131

Size, inches ...	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$
Malleable, each	.20	.20	.20	.25	.30	.40

Size, inches	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4
Malleable, each	.50	.70	1.10	1.50	1.90	2.46

Fig. G-131

Malleable Iron Floor Flanges Drilled



Fig. G-132

Size, inches	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$
Outside diam.....	$2\frac{1}{8}''$	$2\frac{1}{2}''$	$2\frac{7}{8}''$	$3\frac{1}{2}''$	$4''$	$4\frac{3}{8}''$	$4\frac{3}{4}''$	$5\frac{1}{4}''$	$6\frac{1}{8}''$
Black.....	.16	.24	.34	.33	.42	.58	.73	.88	1.65
Galv'd.....	.24	.36	.50	.54	.68	.94	1.20	1.45	2.65

Cast Iron Floor Flanges Drilled



Fig. G-133

Size, inches ...	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1
Outside, diam....	$2\frac{1}{8}''$	$2\frac{7}{8}''$	$2\frac{15}{16}''$	$3\frac{3}{8}''$	$3\frac{7}{8}''$
Each.....	.14	.14	.15	.18	.22

Size, inches ...	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Outside diam.	$4\frac{1}{4}''$	$4\frac{7}{8}''$	$5''$	$6\frac{7}{8}''$	$7''$
Each.....	.30	.36	.45	.85	1.00

Wrought Iron Flanges

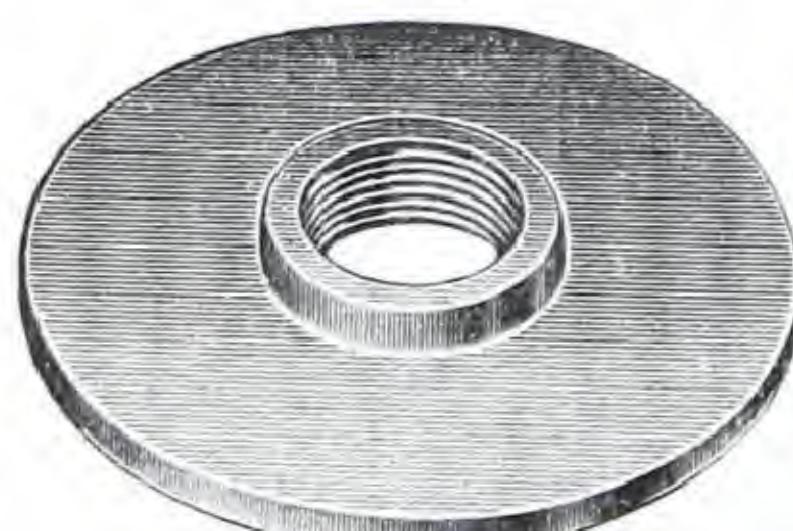


Fig. G-134

Size, inches..	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$
Outside, diam.....	$2\frac{3}{4}''$	$3''$	$3\frac{1}{2}''$	$4''$	$4\frac{1}{2}''$	$5''$	$5\frac{1}{4}''$
Each.....	.25	.29	.36	.38	.44	.56	.64

Size, inches..	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	5	6
Outside, diam.....	$6''$	$7''$	$7''$	$8''$	$9''$	$10''$	$11''$
Each.....	.88	2.28	2.70	3.12	4.36	6.00	7.80

“Bonney” Drop-Forged Welding Flanges

Made of special Welding Steel and threaded to Standard Gauges



Fig. G-135

Standard Heavy



Fig. G-136

Extra Heavy



Fig. G-137

Heavy Tank

Pipe size, inches	1/2	3/4	1	1 1/4	1 1/2
Outside diam. . . . "	1 7/8	2	2 1/4	2 11/16	3 3/4
Thickness flange, "	3/4	5/16	1/2	1/2	1/2
Total height. . . . "	9/16	5/8	3/4	3/4	3/4
Price. each	.16	.17	.20	.22	.27

Pipe size, inches	2	2 1/2	3	3 1/2	4
Outside diam. . . . "	3 1/2	4 1/16	4 5/8	5 1/2	5 13/16
Thickness flange, "	1/8	1/8	1/8	1/8	1/8
Total height. . . . "	3/4	1	1	1	1 1/8
Price. each	.32	.58	.84	.96	1.22

Pipe size, inches	3/4	1	1 1/4	1 1/2	2
Outside diam. . . . "	2 1/4	2 1/2	2 15/16	3 1/4	3 3/4
Thickness flange, "	1/4	1/4	1/4	1/4	1/4
Total height. . . . "	3/4	3/4	3/4	3/4	3/4
Price. each	.28	.32	.36	.40	.48

Pipe size, inches	2 1/2	3	3 1/2	4	
Outside diam. . . . "	4 5/16	5 1/2	5 15/16	6 1/2	
Thickness flange, "	1/4	1/4	1/4	1/4	
Total height. . . . "	1	1	1	1 1/8	
Price. each	.80	1.44	1.60	1.92	

Pipe size, inches	1/2	3/4	1	1 1/4	1 1/2
Outside diam. . . . "	1 1/2	1 3/4	2 1/8	2 1/2	3
Thickness flange, "	5/8	5/8	5/8	5/8	5/8
Total height. . . . "	7/16	5/8	5/8	5/8	5/8
Price. each	.18	.19	.22	.24	.29

Pipe size, inches	2	2 1/2	3	3 1/2	4
Outside diam. . . . "	3 1/4	4 1/4	4 3/4	5 1/4	5 1/4
Thickness flange, "	1/8	1/8	1/8	1/8	1/8
Total height. . . . "	3/4	1	1	1	1 1/8
Price. each	.33	.66	.96	1.08	1.40

Threads can be supplied straight or taper, as desired.

CURVED PATTERN Flanges supplied in Standard Weight or in Extra Heavy

For Forged Steel Boiler Flanges, see page 22.



Fig. G-138
Elbow with Union

Diameter Inside thread
" $\frac{1}{2}''$ x $\frac{1}{2}''$
" $\frac{3}{4}''$ x $\frac{3}{4}''$

Boiler
Fittings
Galvanized
Malleable

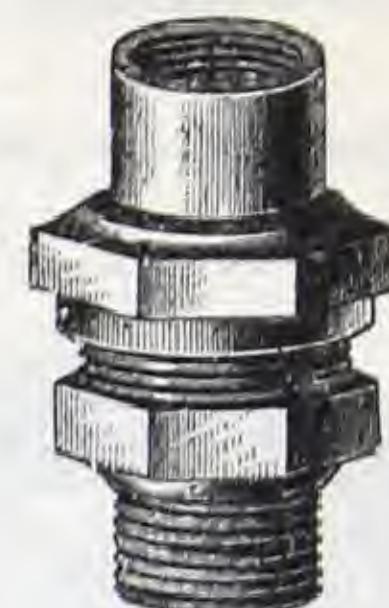


Fig. G-139
Coupling with Union

Outside thread
1"
1"

Price
each \$0.80
" 1.00



Fig. G-140
New Style, Elbow with Union

Diameter Inside thread
" $\frac{1}{2}''$ x $\frac{1}{2}''$
" $\frac{3}{4}''$ x $\frac{3}{4}''$

Fig. G-141
New Style, Coupling with Union

Outside thread
1"
1"

Price
each \$0.90
" 1.10



Fig. G-142
Female

Union
Elbows
Malleable



Fig. G-143
Male and Female

Size, inches	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$
Fig. G-142—Black	38	40	42	54	63	.90	1.05	1.55	2.85
" Galv'd.	57	60	63	81	95	1.35	1.58	2.35	4.30
Fig. G-143—Black	43	45	48	62	72	1.05	1.20	1.80	3.30
" Galv'd.	65	70	72	93	1.08	1.60	1.80	2.70	4.95



Fig. G-144
Female

“DART”
Union - Elbows
Malleable Iron
with Bronze Seats



Fig. G-145
Male and Female

Size, inches	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Black .....	.45	.60	.75	.90	1.20	1.80	2.40	3.00
Galv'd. ....	.59	.78	.98	1.17	1.56	2.34	3.12	3.90



Fig. G-146
Female

“DART”
Union Tees
Union on the Outlet
Malleable Iron
with Bronze Seats



Fig. G-147
Male and Female



Fig. G-148
Female

“DART”
Union Tees
Union on the Run
Malleable Iron
with Bronze Seats

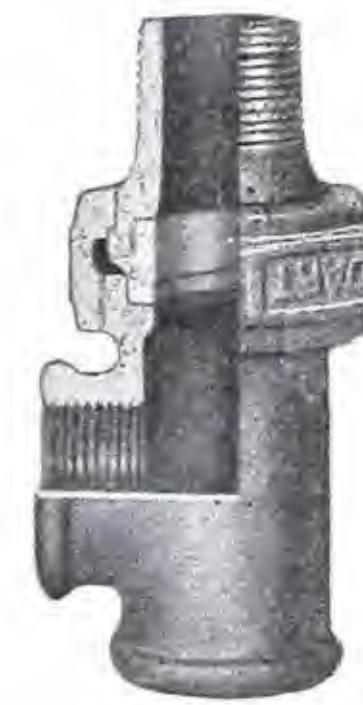


Fig. G-149
Male and Female

Size, inches	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Black .....	.50	.66	.82	.99	1.32	1.98	2.64	3.30
Galv'd. ....	.66	.86	1.07	1.29	1.72	2.58	3.43	4.29

Unions - Malleable Iron



Fig. G-150

Size inches...	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$
Black.....	.18	.18	.20	.22	.27	.33	.46
Galv'd.....	.27	.27	.30	.33	.40	.50	.70

Size, inches	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4
Black.....	.58	.75	1.55	2.10	3.65	4.35
Galv'd.....	.90	1.15	2.35	3.15	5.50	6.50

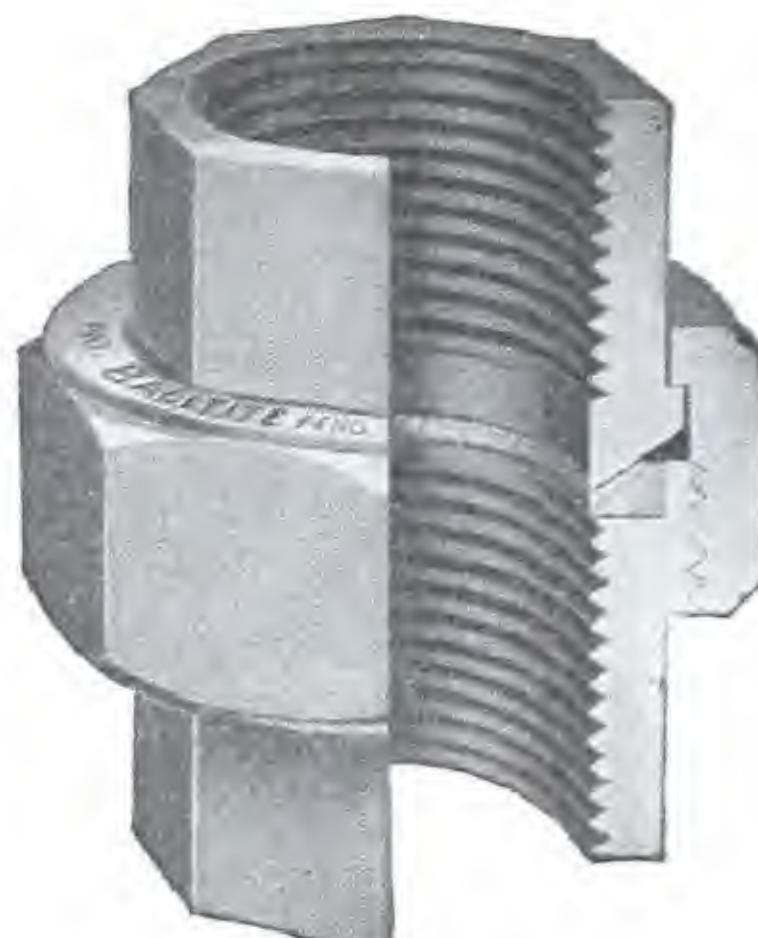


Fig. G-151

“Balltite” Gasket Union

*Eliminates cost of hand
cut gasket and ensures
a perfect fit, even
though pipes
are out of line.*

Supplied in Black or
coated with Udylite.

Special “Balltite” Gasket
inserted in Union

Fig. G-152

Size, inches.....	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Black.....	.18	.20	.22	.27	.33	.46	.58	.75
Udylited.....	.27	.30	.33	.40	.50	.70	.90	1.15

UDYLITING is a method of electrically applying a new and superior rust preventative coating to metals. The basis of the coating is Cadmium, the best known preventative.

Unions - Malleable Iron

Brass to Iron Seat



Fig. G-153

Size, inches ...	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1
Black.....	.30	.30	.40	.50	.60	.80
Galv'd.....	.45	.45	.60	.75	.90	1.20

Size, inches	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Black.....	1.20	1.60	2.00	3.20	4.80
Galv'd.....	1.80	2.40	3.00	4.80	7.20

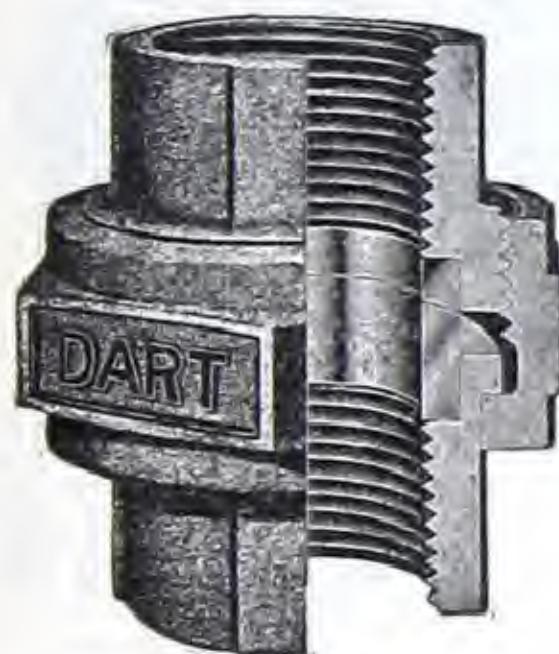


Fig. G-154
Female

“Dart” Unions
Malleable Iron
with Bronze Seat

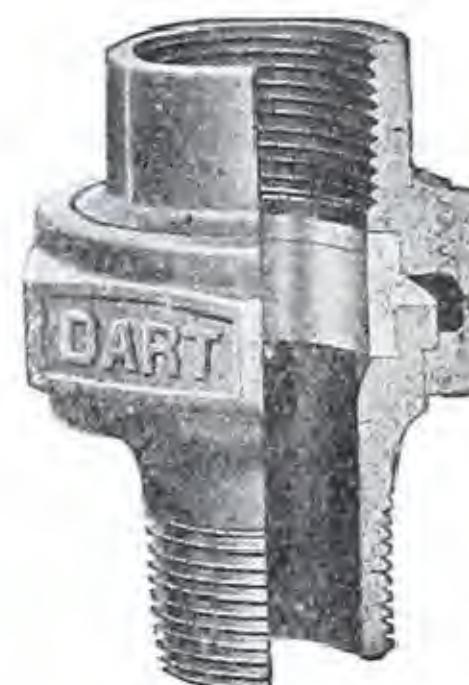


Fig. G-155
Male and Female

Size, inches.....	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$
Fig. G 154—Black.....	.30	.30	.40	.50	.60	.80	1.20
“ “ —Galv'd.....	.39	.39	.52	.65	.78	1.04	1.56
Fig. G 155—Black.....	..	.38	.50	.62	.75	1.00	1.50
“ “ —Galv'd.....	..	.50	.65	.81	.98	1.30	1.95

Size, inches.....	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4
Fig. G 154—Black.....	1.60	2.00	3.20	4.80	7.20	10.80
“ “ —Galv'd.....	2.08	2.60	4.16	6.24	9.36	14.04
Fig. G 155—Black.....	2.00	2.50	4.00	6.00	...	...
“ “ —Galv'd.....	2.60	3.25	5.20	7.80	...	...

Reducing Sizes.....	$\frac{3}{4}'' \times 1''$	$1'' \times 1\frac{1}{4}''$	$1\frac{1}{4}'' \times 1\frac{1}{2}''$	$1\frac{1}{2}'' \times 2''$
Black.....	.90	1.20	1.80	2.40
Galv'd.....	1.17	1.56	2.34	3.12

“Dart” Flange Unions with Bronze Seats

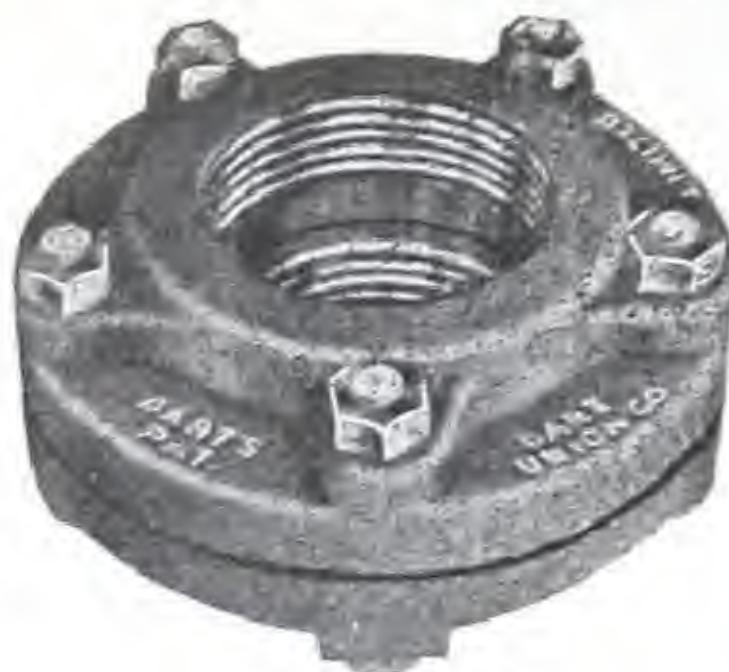


Fig. G-156

Size, inches	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$	3
Black	.80	1.20	1.60	2.00	3.20	4.80
Galv'd.	1.04	1.56	2.08	2.60	4.16	6.24

Size, inches	3 $\frac{1}{2}$	4	5	6	8
Black	6.00	7.50	10.00	12.50	18.00
Galv'd.	7.80	9.75	13.00	16.25	23.40

Fig. G-156

Cast Iron Flange Unions

STANDARD

For 125 lbs. Steam Working Pressure



Fig. G-157

Size, inches....	$\frac{1}{2}$	$\frac{3}{4}$	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$
Black.....	.40	.46	.52	.64	.78	1.00	1.25
Galv'd.....	.80	.92	1.04	1.28	1.56	2.00	2.50

Size, inches....	3	3 $\frac{1}{2}$	4	5	6	8
Black.....	1.50	1.80	2.10	3.15	3.95	7.00
Galv'd.....	3.00	3.60	4.20	6.30	7.90	14.00

Cast Iron Flange Unions

EXTRA HEAVY

For 250 lbs. Steam Working Pressure



Fig. G-158

Size, inches....	$\frac{1}{2}$	$\frac{3}{4}$	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$
Black.....	.70	.70	.80	1.00	1.15	1.50	1.90
Galv'd.....	1.40	1.40	1.60	2.00	2.30	3.00	3.80

Size, inches....	3	3 $\frac{1}{2}$	4	5	6	8
Black.....	2.25	2.70	3.15	4.75	6.00	10.50
Galv'd.....	4.50	5.40	6.30	9.50	12.00	21.00

Cast Iron Branch Tees or Headers

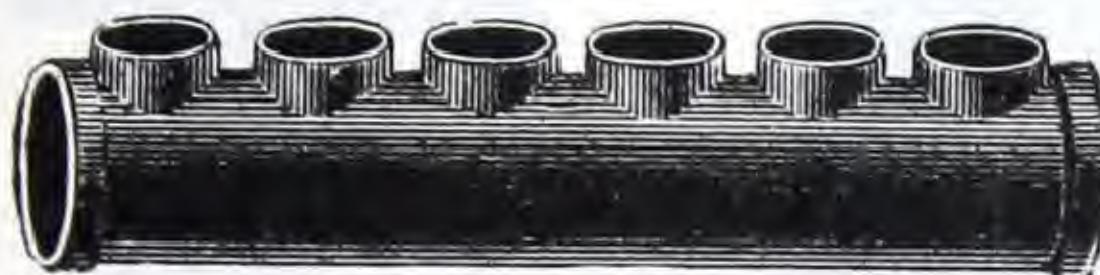


Fig. G-159 — End Feed and Outlet

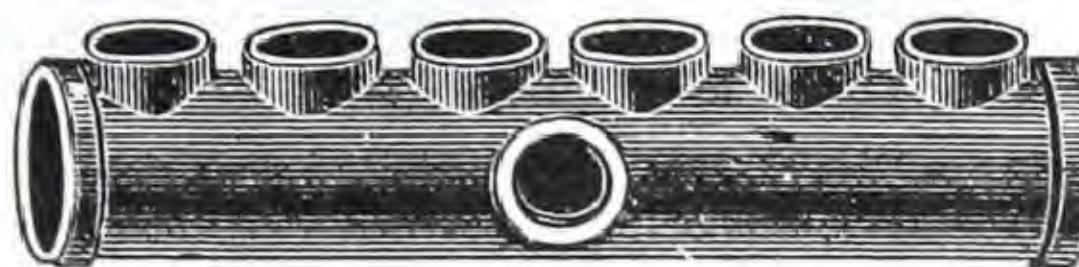


Fig. G-160—Side Feed in Centre

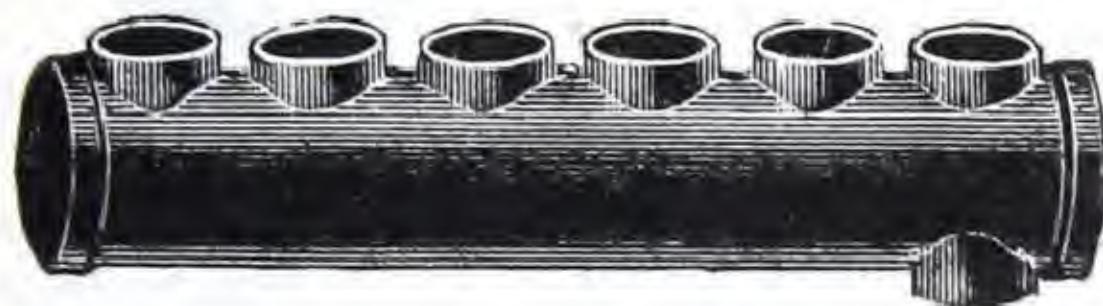


Fig. G-161—Back Feed near End

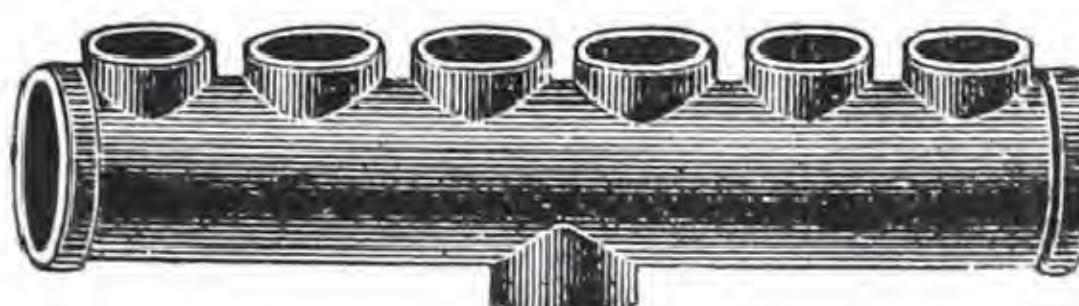


Fig. G-162—Back Feed in Centre

List Prices, with End Feed and Outlet (as fig. G 159)

Number of Branches . .			2	3	4	5	6	7	8	9	10
Diam. of Branches	Inside Diam.	Centres of Branches									
1"	1 $\frac{1}{4}$ "	2 $\frac{1}{2}$ "	.90	1.05	1.15	1.35	1.60	1.90	2.15	2.40	2.65
1"	2 $\frac{1}{2}$ "	2 $\frac{1}{2}$"	....	....	....	....	....	2.45	2.75	3.40	4.00
1 $\frac{1}{4}$ "	2 $\frac{1}{2}$ "	3 "	1.50	1.90	2.40	2.90	3.30	3.90	4.50	5.25	5.85
1 $\frac{1}{4}$ "	3 "	3 "	1.95	2.40	2.85	3.55	3.95	4.20	4.95	6.15	6.85
1 $\frac{1}{4}$ "	3 $\frac{1}{2}$ "	3 "	....	....	4.30	4.90	5.40	6.25	7.10	8.25	9.20
1 $\frac{1}{2}$ "	2 $\frac{1}{2}$ "	3 $\frac{1}{2}$ "	2.10	2.70	3.35	4.00	4.65	5.25	5.85	6.50	7.60
1 $\frac{1}{2}$ "	3 "	3 $\frac{1}{2}$ "	2.85	3.45	4.15	5.00	5.75	6.50	7.00	8.25	9.25
1 $\frac{1}{2}$ "	3 $\frac{1}{2}$ "	3 $\frac{1}{2}$ "	3.15	3.80	4.60	5.50	6.25	7.25	7.75	9.00	10.00
2 "	3 "	4 $\frac{1}{2}$ "	4.50	5.75	7.00	8.50	9.75	....	....	....	....

Each Back or Side Feed will be charged as an additional Branch.

In ordering Headers state the inside diameter, the number and size of Branches, and the position of Outlet with Figure Number as above.

When not ordered otherwise, Headers with 1" Branches will be tapped Left in Branches, and Right in Feeds. Headers with 1 $\frac{1}{4}$ " Branches or larger, are tapped Right all over.

Pipe Hangers

Steel
Hook Plate



Lag Screw



Plain Ring
With Bolt



Extension Bar
in 10 ft.
Lengths



Fig. G-164

I-Beam Clamp adjustable
for 3" to 6" width of flange

Fig. G-167



Fig. G-163

Fig. G-166

Steel Hook Plates: Size, inches	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2
Number of Hooks per length	30	30	25	20
Fig. G-163—per Hook . . . . .	.08	.11	.15	.21

For Pipe, inches	$\frac{1}{2}$ to 1 $\frac{1}{2}$	2 to 3	3 $\frac{1}{2}$ to 6
Fig. G-164—Lag Screw, each . . . . .	.10	.12	.14
Fig. G-166—Beam Clamp " . . . . .	.25	.30	.35

Fig. G-167—Extension Bar, per ft. . . . .	.08	.09	.12
Width & Thickness,	$\frac{7}{8}'' \times 16$ g.	$1'' \times 15$ g.	$1\frac{1}{8}'' \times 14$ g.
Stove Bolts per 100	\$1.20	1.30	1.95

Plain Ring with Bolt

Size, inches . .	$\frac{1}{2}$	$\frac{3}{4}$	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	4	5	6	8	10
Fig. G-165 each . .	.14	.14	.16	.18	.20	.22	.24	.26	.30	.32	.36	.40	.88	1.35

Pipe Hangers (*continued*)

Galvanized Cast Iron

Long



Fig. G-168

Short



Fig. G-169

Pipe Straps

Galvanized



Fig. G-170

Sizes, $\frac{1}{2}$ " to 2"

Per lb. \$0.72

Size, inches	1	$\frac{1}{2}$	1	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Fig. G-168—Long, per 100	\$8.00	8.00	10.00	12.00	14.00	18.00	27.00
Fig. G-169—Short "	6.50	6.50	7.00	9.00	12.00	16.00	25.00

Malleable Pipe Saddles



Fig. G-171

Expansion Shields

Malleable Iron,
With tapered inside thread.



Fig. G-172

Fig. G-171—Pipe Saddles

Pipe size, inches	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	5	5	6	6	8
Tapped for "	$\frac{1}{2}-\frac{3}{4}$	$\frac{1}{2}-1\frac{1}{2}$	$\frac{3}{4}-1\frac{1}{2}$	$\frac{3}{4}-2$	$\frac{3}{4}-2$	$\frac{3}{4}-2$	$\frac{3}{4}-2$	$2\frac{1}{2}-3$	$\frac{3}{4}-2$	$2\frac{1}{2}-4$	$1-4$
Price, each	\$0.90	1.00	1.25	1.25	1.40	1.50	2.75	2.75	2.75	5.75	6.50

Fig. G-172—Expansion Shields

Diam. of Screw	$\frac{1}{4}$ "	$\frac{5}{16}$ "	$\frac{3}{8}$ "	$\frac{7}{16}$ "	$\frac{1}{2}$ "	$\frac{5}{8}$ "	$\frac{3}{4}$ "	$\frac{7}{8}$ "	$1\frac{1}{4}$ "	$1\frac{1}{4}$ "
Length of Shield	$1\frac{1}{2}$ "	$1\frac{3}{4}$ "	$2\frac{1}{4}$ "	$2\frac{3}{4}$ "	$3\frac{1}{2}$ "	$3\frac{1}{2}$ "	$3\frac{1}{2}$ "	5 "	5 "	$6\frac{1}{2}$ "
Outside Diam.	$\frac{1}{2}$ "	$\frac{9}{16}$ "	$\frac{5}{8}$ "	$\frac{11}{16}$ "	$\frac{3}{4}$ "	$\frac{7}{8}$ "	$1\frac{1}{8}$ "	$1\frac{1}{8}$ "	$1\frac{1}{2}$ "	$1\frac{1}{2}$ "
Price, per 100	\$15.00	18.00	25.00	32.00	38.00	45.00	65.00	95.00	110.00	250.00

Pipe Hangers (*continued*)



Fig. G-173



Fig. G-174



Fig. G-175



Fig. G-176

These Pipe Hangers can be used with Coach Screw Rod or with Machine Threaded Rod in connection with practically any type of Ceiling Flange, Expansion Shield, etc. They are made of Malleable Iron.

Fig. G 173—Shows an Adjustable Swivel Ring with an adjustment of about two inches by simply turning the nut on the shank.

Fig. G 174—Shows the same Swivel Ring fitted with a Coach Screw Rod.

Fig. G 175—Illustrates a Split Ring with Socket which can be supplied with pipe thread or rod thread.

Fig. G 176—Is a combination of Split Ring with Socket and a Ceiling Flange. The nipple is not included in the list price.

Note: Fig. G-174-5-6 Any of the parts of these fittings can be supplied separately.

Pipe Size, inches	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$
Fig. G 173 each	...	.18	.20	.21	.22	.24	.34
Fig. G 174 . . . . . "	...	.28	.30	.31	.32	.34	.47
Fig. G 175 "	.10	.12	.12	.14	.16	.18	.22
Fig. G 176 "	.15	.18	.18	.20	.22	.25	.30

Pipe Size, inches	3	$3\frac{1}{2}$	4	5	6	8
Fig. G 173 each	.42	.44	.56	.70	1.08	1.92
Fig. G 174 "	.55	.57	.73	.87	1.26	2.16
Fig. G 175 "	.28	.43	.53	.63	.82	1.32
Fig. G 176 "	.35	.50	.60	.70	.90	1.40

Fig. G-174 is used with the Shield (Fig. G-172) when fixed in concrete ceiling



Fig. G-177

Pipe Rollers

Size of Pipe	1"	1 $\frac{1}{4}$ "	1 $\frac{1}{2}$ "	2"	2 $\frac{1}{2}$ "	3"	4"	5"	6"	8"
Each	\$.08	.09	.10	.13	.15	.18	.21	.24	.27	.60

For prices with Roller Rods and Adjustable Sockets
see below.

Single Pipe Rollers and Branch Pipe Rollers



Fig. G-178

Single Pipe
Rollers with
Roller Rod
& Adjust-
able Sockets



Fig. G-179

Branch Pipe
Rollers with
Roller Rod
& Adjust-
able Sockets

Fig. G-179—Branch Pipe Roller

Fig. G-178—Size, inches	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	4	5	6	8	10	12
Rollers, Rods & Sockets	\$0.35	0.35	0.35	0.40	0.40	0.45	0.45	0.45	0.65	0.75	1.25	2.20	3.50

Fig. G-179—Number of Branches	2	3	4	5	6	7	8	9	10	11	12
Pipe size 1 $\frac{1}{4}$ inch	\$0.60	0.80	0.90	1.00	1.10	1.35	1.60	1.70	1.80	1.90	2.00
" " 1 $\frac{1}{2}$ " "	0.65	0.85	1.00	1.10	1.25	1.50	1.75	1.85	2.00	2.10	2.25

Nickel-plated Flanges

Fig. G-180 — Solid

	$\frac{1}{2}$ "	$\frac{3}{4}$ "	1"	1 $\frac{1}{4}$ "	1 $\frac{1}{2}$ "	2"
	\$0.12	0.13	0.14	0.15	0.16	0.17

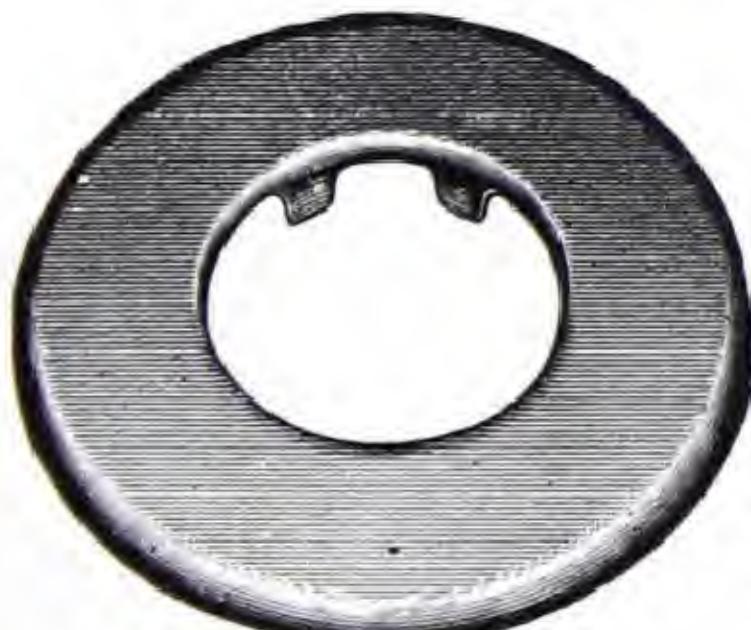


Fig. G-180—Solid

Fig. G-181—Hinged

	$\frac{3}{8}$ "	$\frac{1}{2}$ "	$\frac{3}{4}$ "	1"	1 $\frac{1}{4}$ "	1 $\frac{1}{2}$ "
	\$0.26	0.27	0.28	0.32	0.35	0.38



Fig. G-181—Hinged

	2"	2 $\frac{1}{2}$ "	3"	3 $\frac{1}{2}$ "	4"	5"	6"
	\$0.45	0.65	0.80	1.00	1.25	1.75	2.00

Standard Cast Iron Long Sweep Fittings

For 125 lbs. Steam Working Pressure



Fig. G-182
Elbow

Sizes, inches	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$	3
Elbows, Black	.32	.40	.55	.80	1.20	2.25
" Reducing	.48	.60	.83	1.20	1.80	3.38

Size, inches . . .	3 $\frac{1}{2}$	4	5	6	8
Elbows, Black . . .	3.25	3.50	6.50	8.75	17.00
" Reducing . . .	4.88	5.25	9.75	13.13	25.50



Fig. G-183
Double Branch Elbow

Size, inches . . .	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$	3
D.B. Elbows, Black	.64	.80	1.10	1.60	2.40	4.50
" Reducing	.96	1.20	1.65	2.40	3.60	6.75

Size, inches . . .	3 $\frac{1}{2}$	4	5	6	8
D.B. Elbows, Black . . .	6.50	7.00	13.00	17.50	34.00
" Reducing . . .	9.75	10.50	19.50	26.25	51.00



Fig. G-184
Single Sweep Tee

B

Size, inches . . .	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$	3
Tees, Black . . .	.48	.60	.82	1.20	1.80	3.40
" Reducing . . .	.72	.90	1.23	1.80	2.70	5.10

A

Size, inches . . .	3 $\frac{1}{2}$	4	5	6	8
Tees, Black . . .	4.90	5.25	9.75	13.25	25.50
" Reducing . . .	7.35	7.88	14.63	19.88	38.25



Fig. G-185
Double Sweep Tee

Size, inches . . .	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$	3
D.S. Tees, Black	.64	.80	1.10	1.60	2.40	4.50
" Reducing	.96	1.20	1.65	2.40	3.60	6.75

Size, inches . . .	3 $\frac{1}{2}$	4	5	6	8
D.S. Tees, Black . . .	6.50	7.00	13.00	17.50	34.00
" Reducing . . .	9.75	10.50	19.50	26.25	51.00

For Galvanized Fittings, double above lists.

For Standard Reducing Sizes, see page 79.

Standard Cast Iron Long Sweep Fittings

For 125 lbs. Steam Working Pressure



Fig. G-186
Cross

Size, inches ...	1	1½	1¾	2	2½	3
Crosses, Black ..	.85	1.10	1.50	2.15	3.20	6.00
“ Reducing ..	..	1.65	2.25	3.23	4.80	9.00

Size, inches ...	3½	4	5	6	8
Crosses, Black ..	8.75	9.50	17.50	24.00	45.00
“ Reducing ..	13.13	14.25	26.25	36.00	67.50

For Galvanized Fittings, double above lists.

For Standard Reducing Sizes, see below.

Double Branch Elbows—Reducing Sizes

1x1x1½	1½x1½x1½	1½x1½x2	2x2x2½	2x2x3	2½x2½x3	2½x2½x4	3x3x4	etc.
1x1x1½	1½x1½x1½	1½x1½x2	2x2x2½	2x2x3	2½x2½x3	2½x2½x4	3x3x4	etc.

In Describing Double Elbows the Run openings are named first.

Single Sweep Tees—Reducing Sizes

1½x1½x1	1½x1½x1½	2 x2 x1	2½x2½x1½	3 x3 x2	3½x3½x2	4 x4 x3	4 x3 x3
1½x1 x1	1½x1½x1	2 x1½x1½	2½x2 x2	3 x3 x1½	3½x3½x1½	4 x4 x2½	5 x5 x3
1½x1½x1½	2x2 x1½	2½x2½x2	2½x2 x1½	3 x3 x1½	3½x3½x1½	4 x4 x2	5 x5 x2
1½x1½x1	2x2 x1½	2½x2½x1½	3 x3 x2½	3 x2½x2	3½x3 x2	4 x4 x1½	6 x6 x2

These measurements represent A, B and C in Fig. G-184

Double Sweep Tees—Reducing Sizes

2 x2 x1	3 x3 x 2	3½x3½x2½	3 x2½x3½	4 x3 x3½	5 x5 x3½	5 x3 x5	6 x6 x5	6 x4 x4
2 x1½x1½	3 x3 x1½	3½x3 x3½	3 x2 x3½	4 x3 x3	5 x5 x3	5 x3 x4	6 x6 x4	6 x3½x6
2 x1½x1	3 x3 x1	3½x3 x3	2½x2½x3½	4 x3 x2½	5 x5 x2½	5 x3 x3½	6 x6 x3½	6 x3½x5
2½x2½x2	3 x2½x3	3½x3 x2½	4 x4 x3½	4 x2½x4	5 x4 x5	5 x2½x5	6 x6 x3	6 x3 x6
2½x2½x1½	3 x2½x2½	3½x3 x2	4 x4 x3	4 x2½x3½	5 x4 x4	5 x2½ 4	6 x5 x6	5 x5 x6
2½x2½x1	3 x2½x2	3½x2½x3½	4 x4 x2½	3½x3½x4	5 x4 x3½	4 x4 x5	6 x5 x5	5 x4 x6
2½x2 x2½	3 x2 x3	3½x2½x3	4 x3½ 4	3½x3 x4	5 x4 x3	4 x3½x5	6 x5 x4	5 x3½x6
2½x2 x2	3 x2 x2½	3½x2½x2½	4 x3½x3½	3½x2½x4	5 x4 x2½	4 x3 x5	6 x5 x3½	5 x3 x6
2½x2 x1½	2½x2½x3	3½x2 x3½	4 x3½x3	3 x3 x4	5 x3½x5	4 x2½x5	6 x5 x3	4 x4 x6
2 x2 x2½	2½x2 x3	3½x2 x3	4 x3½x2½	3 x2½x4	5 x3½x4	3½x3½x5	6 x4 x6	4 x3½x6
3 x3 x2½	3½x3½x3	3 x3 x3½	4 x3 x4	5 x5 x4	5 x3½x3½	3½x3 x5	6 x4 x5	8 x8 x6

In describing Tees the run is named first and the outlet last.

Crosses—Reducing Sizes

2½x2½x1½x1½	3 x3 x1½x1½	4 x4 x2½x2½	5 x5 x4 x4
5 x5 x3 x3	6 x6 x4 x4	8 x8 x6 x6	8 x8 x4 x4

In describing Crosses the run openings are named first, then the outlets.

Extra Heavy Cast Iron Screwed Fittings

For 250 lbs. Steam Working Pressure



Fig. G-187—90° Elbow

Size, inches ...	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Elbow, Black ...	.25	.30	.35	.45	.60	.75
" Reducing ...	...	.40	.45	.55	.75	.95

Size, inches ...	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	5	6
Elbow, Black ...	1.25	2.00	2.75	3.50	5.50	8.00
" Reducing ...	1.55	2.50	3.40	4.40	6.80	...

For Reducing Sizes see page 56.



Fig. G-188—45° Elbow

Size, inches ...	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
45° Elbow ...	.35	.40	.44	.55	.70	.90

Size, inches ...	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	5	6
45° Elbow ...	1.50	2.50	3.50	4.50	6.75	9.75

Reducing Sizes can be made to Order, at special prices.



Fig. G-189—Tee

Size, inches ...	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Tee Black ...	.40	.45	.55	.70	.90	1.15
" Reducing ...	...	.60	.70	.90	1.15	1.40

Size, inches ...	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	5	6
Tee Black ...	1.80	3.00	4.25	5.50	8.25	12.00
" Reducing ...	2.25	3.75	5.30	6.85	10.25	15.00

For Reducing Sizes, see pages 58-59.



Fig. G-190—Cross

Size, inches ...	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$
Cross, Black ...	.70	.90	1.20	1.50	2.50

Size, inches ...	3	$3\frac{1}{2}$	4	5	6
Cross, Black ...	4.00	5.50	7.00	11.00	16.00

Reducing Sizes can be made to order, at special prices.

For Galvanized Fittings double above lists
Screwed Fittings are not recommended above 6 inches
 For larger sizes, Flanged are considered more suitable

Extra Heavy Cast Iron Screwed Fittings

For 250 lbs. Steam Working Pressure



Fig. G-191—Y Branch

Size, inches	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$
Y Branch, Black		1.10	1.35	1.80	2.25	3.75
Reducing Coupling .....	.33	.39	.50	.66	.83	1.38

Size, inches	3	$3\frac{1}{2}$	4	5	6	
Y Branch, Black	6.00	8.25	11.00	16.50	24.00	
Reducing Coupling	2.20	3.05	3.85	6.00	8.80	

For Galvanized Fittings double above lists

90° ELBOWS — Reducing Sizes

$\frac{1}{4}x\frac{1}{2}$ $1x\frac{3}{4}$ $1\frac{1}{4}x1$ $1\frac{1}{2}x1\frac{1}{4}$ $1\frac{1}{2}x1$ $2x1\frac{1}{2}$ $2x1\frac{1}{4}$ $2x1$ $2\frac{1}{2}x2$ $2\frac{1}{2}x1\frac{1}{2}$ $3x2\frac{1}{2}$ $3x2$ $4x3$ $5x4$

TEES — Reducing Sizes

$\frac{3}{4}x\frac{3}{4}x\frac{1}{2}$	$1\frac{1}{2}x1\frac{1}{2}x\frac{3}{4}$	$2x\frac{3}{4}x2$	$3x3x2$	$4x4x1\frac{1}{4}$
$\frac{2}{3}x\frac{2}{3}x\frac{1}{3}$	$1\frac{1}{2}x1\frac{1}{2}x\frac{1}{2}$	$2x\frac{1}{2}x2$	$3x3x1\frac{1}{4}$	$4x3x4$
$1x1x\frac{3}{4}$	$1\frac{1}{2}x1\frac{1}{2}x\frac{1}{4}$	$1\frac{1}{2}x1\frac{1}{2}x2$	$3x3x1$	$4x3x3$
$1x1x\frac{1}{2}$	$1\frac{1}{2}x1\frac{1}{4}x1\frac{1}{2}$	$1\frac{1}{4}x1\frac{1}{4}x2$	$3x2\frac{1}{2}x3$	$4x2\frac{1}{2}x4$
$1x\frac{3}{4}x\frac{3}{4}$	$1\frac{1}{2}x1\frac{1}{4}x1\frac{1}{4}$	$2\frac{1}{2}x2\frac{1}{2}x2$	$3x2\frac{1}{2}x2\frac{1}{2}$	$4x2\frac{1}{2}x2\frac{1}{2}$
$1x\frac{3}{4}x\frac{1}{2}$	$1\frac{1}{2}x\frac{3}{4}x1\frac{1}{2}$	$2\frac{1}{2}x2\frac{1}{2}x1\frac{1}{4}$	$3x2\frac{1}{2}x2$	$4x2x4$
$1x\frac{1}{2}x1$	$1\frac{1}{2}x\frac{1}{2}x1\frac{1}{2}$	$2\frac{1}{2}x2\frac{1}{2}x1$	$3x2\frac{1}{2}x1\frac{1}{2}$	$3x3x\frac{3}{4}$
$\frac{3}{4}x\frac{3}{4}x1$	$2x2x1\frac{1}{2}$	$2\frac{1}{2}x2\frac{1}{2}x\frac{3}{4}$	$3x2x3$	$5x5x4$
$1\frac{1}{4}x1\frac{1}{4}x1$	$2x2x1\frac{1}{4}$	$2\frac{1}{2}x2\frac{1}{2}x\frac{1}{2}$	$3x2x2$	$5x5x3$
$1\frac{1}{4}x1\frac{1}{4}x\frac{3}{4}$	$2x2x1$	$2\frac{1}{2}x2x2\frac{1}{2}$	$3x2x1\frac{1}{2}$	$5x5x2\frac{1}{2}$
$1\frac{1}{4}x1\frac{1}{4}x\frac{1}{2}$	$2x2x\frac{3}{4}$	$2\frac{1}{2}x2x2$	$3x1\frac{1}{2}x2$	$5x5x2$
$1\frac{1}{4}x1\frac{1}{4}x\frac{1}{4}$	$2x2x\frac{1}{2}$	$2\frac{1}{2}x2x1\frac{1}{2}$	$3x1x3$	$5x3x5$
$1\frac{1}{4}x1x1\frac{1}{4}$	$2x2x\frac{1}{4}$	$2\frac{1}{2}x1\frac{1}{2}x2\frac{1}{2}$	$2\frac{1}{2}x2\frac{1}{2}x3$	$5x2x5$
$1\frac{1}{4}x1x1$	$2x2x2$	$2\frac{1}{2}x1\frac{1}{2}x2$	$2x2x3$	$6x6x5$
$1\frac{1}{4}x\frac{3}{4}x1\frac{1}{4}$	$2x1\frac{1}{2}x1\frac{1}{2}$	$2\frac{1}{2}x1\frac{1}{2}x1\frac{1}{2}$	$3\frac{1}{2}x3\frac{1}{2}x2$	$6x6x4$
$1\frac{1}{4}x\frac{1}{2}x1\frac{1}{4}$	$2x1\frac{1}{2}x1$	$2\frac{1}{2}x\frac{3}{4}x2\frac{1}{2}$	$3\frac{1}{2}x2\frac{1}{2}x2\frac{1}{2}$	$6x6x3$
$1\frac{1}{4}x\frac{1}{4}x1\frac{1}{4}$	$2x1\frac{1}{4}x2$	$2x2x2\frac{1}{2}$	$4x4x3$	$6x6x2\frac{1}{2}$
$1x1x1\frac{1}{4}$	$2x1\frac{1}{4}x1\frac{1}{4}$	$1\frac{1}{2}x1\frac{1}{2}x2\frac{1}{2}$	$4x4x2\frac{1}{2}$	$6x6x2$
$1\frac{1}{2}x1\frac{1}{2}x1\frac{1}{4}$	$2x1x2$	$3x3x2\frac{1}{2}$	$4x4x2$	$6x4x6$
$1\frac{1}{2}x1\frac{1}{2}x1$	$2x1x1\frac{1}{2}$		$4x4x1\frac{1}{2}$	$6x4x4$

In describing Tees the run is named first and the outlet last.

COUPLINGS — Reducing Sizes

$\frac{1}{4}x\frac{1}{2}$ $1x\frac{3}{4}$ $1\frac{1}{4}x1$ $1\frac{1}{2}x1$ $2x\frac{3}{4}$ $2x1$ $2x1\frac{1}{2}$ $3x2$ $5x3$ $6x3$

For List Prices, see above.

Screwed Fittings are not recommended above 6 inch.

For larger sizes, Flanged Fittings are considered more suitable.

Standard Cast Iron Flanged Fittings

For 125 lbs. Steam Working Pressure



Fig. G-192—90° Elbow

Size, inches	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	4	5	6
Faced only	3.00	3.00	3.00	3.15	3.45	4.05	4.50	6.25	7.60
Faced & Drilled ..	3.60	3.60	3.60	3.75	4.15	4.90	5.50	7.25	8.90
Extra for Galv'd. ..	2.40	2.40	2.40	2.50	2.75	3.25	3.65	4.85	6.00

Size, inches ..	8	10	12	14	16	18	20	24
Faced only	12.00	19.00	28.00	41.50	54.50	71.00	90.00	140.00
Faced & Drill. ..	13.60	21.70	31.00	45.25	59.50	77.00	97.00	150.00
Extra for Galv. ..	9.00	14.50	21.00	30.00	40.00	On application		



Fig. G-193—45° Elbow

Size, inches	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	4	5	6
Faced only	3.30	3.30	3.30	3.50	3.80	4.50	5.00	6.90	8.35
Faced & Drilled ..	3.90	3.90	3.90	4.10	4.50	5.35	6.00	7.90	9.65
Extra for Galv'd. ..	2.40	2.40	2.40	2.50	2.75	3.25	3.65	4.85	6.00

Size, inches ..	8	10	12	14	16	18	20	24
Faced only	12.60	20.00	29.50	41.50	54.50	71.00	90.00	140.00
Faced & Drill. ..	14.20	22.70	32.50	45.25	59.50	77.00	97.00	150.00
Extra for Galv. ..	9.00	14.50	21.00	30.00	40.00	On application		



Fig. G-194—Reducing Elbow

Size, inches	1 $\frac{1}{4}$	2	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	4	5	6
Faced only	6.00	6.00	6.30	6.90	8.10	9.00	12.50	15.25
Faced & Drilled ..	6.60	6.60	6.90	7.60	8.95	10.00	13.50	16.55
Extra for Galv'd. ..	2.40	2.40	2.50	2.75	3.25	3.65	4.85	6.00

Size, inches	8	10	12	14	16	18	20
Faced only	24.00	38.00	56.00	70.00	90.00	105.00	120.00
Faced & Drilled ..	25.60	40.70	59.00	73.75	95.00	111.00	127.00
Extra for Galv'd. ..	9.00	14.50	21.00	30.00	40.00	On application	

For Reducing Sizes, see page 96.

Fittings are supplied "Faced & Drilled" unless ordered otherwise

Standard Cast Iron Flanged Fittings

For 125 lbs. Steam Working Pressure



Fig. G-195—Long Radius Elbow

Size, inches	1½	2	2½	3	3½	4	5	6
Faced only	5.00	5.00	5.25	5.75	6.75	7.50	10.50	12.65
Faced & Drilled	5.90	5.90	6.15	6.85	8.00	9.00	12.00	14.60
Extra for Galv'd.	3.60	3.60	3.75	4.15	4.90	5.50	7.25	9.00

Size, inches	8	10	12	14	16	18	20	24
Faced only	20.00	31.50	46.50	69.00	91.00	118.00	150.00	235.00
Faced & Drill	22.40	35.50	51.00	74.50	98.50	127.00	160.00	250.00
Extra for Galv	13.50	22.00	31.00	45.00	60.00	On application		



Fig. G-196—Side Outlet Elbow

Size, inches	4	5	6	8
Faced only	26.50	28.50	33.00	47.50
Faced & Drilled	28.00	30.00	35.00	50.00

Size, inches	10	12	14	16
Faced only	76.00	100.50	129.50	152.50
Faced & Drilled	80.00	105.00	135.00	160.00

Extra for galvanizing on application.

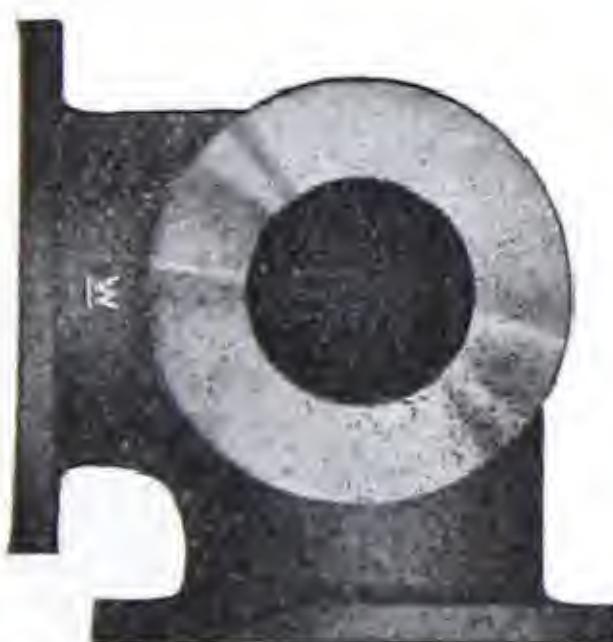


Fig. G-197—Side Outlet Elbow Reducing

Size, inches	4	5	6	8
Faced only	29.50	31.50	36.00	52.50
Faced & Drilled	31.00	33.00	38.00	55.00

Size, inches	10	12	14	15
Faced only	84.00	110.50	144.50	167.50
Faced & Drilled	88.00	115.00	150.00	175.00

Extra for galvanizing on application.

For Drilling Templates, and Prices for Machine Bolts, see pages 98-99.

Standard Cast Iron Flanged Fittings

For 125 lbs Steam Working Pressure



Fig. G-198—Base Elbow

Size, inches	4	5	6	8	10	12
Faced only | except	9.00	12.50	15.25	24.00	38.00	56.00
Faced & Drilled | Base	10.00	13.50	16.55	25.60	40.70	59.00
Facing & Drilling Base	3.00	3.50	3.50	5.00	5.00	7.50
Extra for Galvanized	5.50	7.25	9.00	13.50	22.00	31.00

Size, inches	14	16	18	20	24
Faced only | except	70.00	90.00	105.00	120.00	190.00
Faced & Drilled | Base	73.75	95.00	111.00	127.00	200.00
Facing & Drilling Base	7.50	7.50	12.00	12.00	12.00
Extra for Galvanized	45.00	60.00			On application

Bases are only faced and drilled when specified.



Fig. G-199
Double Branch Elbow

Size, inches	4	5	6	8
Faced only	28.50	36.00	38.00	47.50
Faced & Drilled	30.00	37.50	40.00	50.00

Size, inches	10	12	14	16
Faced only	66.00	90.50	119.50	142.50
Faced & Drilled	70.00	95.00	125.00	150.00

Extra for galvanizing on application.



Fig. G-200
Double Branch Elbow
Reducing

Size, inches	4	5	6	8
Faced only	31.50	39.50	42.00	52.50
Faced & Drilled	33.00	41.00	44.00	55.00

Size, inches	10	12	14	16
Faced only	73.50	100.50	132.50	157.50
Faced & Drilled	77.50	105.00	138.00	165.00

Extra for galvanizing on application.

Fittings are supplied "Faced & Drilled" unless ordered otherwise

Standard Cast Iron Flanged Fittings

For 125 lbs Steam Working Pressure



Fig. G-201—Tee

Size, inches . . .	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	4	5	6
Faced only	4.35	4.35	4.35	4.55	5.00	5.85	6.50	9.10	11.00
Faced & Drilled	5.25	5.25	5.25	5.45	6.10	7.10	8.00	10.60	12.95
Extra for Galv'd.	3.60	3.60	3.60	3.75	4.15	4.90	5.50	7.25	9.00

Size, inches	8	10	12	14	16	18	20	24
Faced only	17.40	27.50	40.50	60.00	79.00	103.00	130.00	203.00
Faced & Drilled	19.80	31.50	45.00	65.50	86.50	112.00	140.00	218.00
Extra for Galv'd.	13.50	22.00	31.00	45.00	60.00	On application		



Fig. G-202—Tee Reducing on Outlet

Reducing Tees

Size, inches	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	4
Faced only	5.00	5.00	5.25	5.75	6.75	7.50
Faced & Drilled	5.90	5.90	6.15	6.85	8.00	9.00
Extra for Galv'd.	3.60	3.60	3.75	4.15	4.90	5.50

Size, inches	5	6	8	10	12
Faced only	10.50	12.65	20.00	31.50	46.50
Faced & Drilled	12.00	14.60	22.40	35.50	51.00
Extra for Galv'd.	7.25	9.00	13.50	22.00	31.00

Size, inches	14	16	18	20	24
Faced only	69.00	91.00	118.00	150.00	233.00
Faced & Drilled	74.50	98.50	127.00	160.00	248.00
Extra for Galv'd.	45.00	60.00	On application		

For Reducing Sizes, see page 96.



Fig. G-203—Tee Reducing on Run

For Drilling Templates, and Prices for Machine Bolts, see pages 98-99.

Standard Cast Iron Flanged Fittings

For 125 lbs Steam Working Pressure



Fig. G-204
Single Sweep Tee



Fig. G-205
Double Sweep Tee



Fig. G-206
Double Sweep Tee
Reducing

Size, inches . . .	2	2½	3	3½	4
Faced only . . .	5.00	5.25	5.75	6.75	7.50
Faced & Drilled	5.90	6.15	6.85	8.00	9.00
Extra for Galv'd.	3.60	3.75	4.15	4.90	5.50

Size, inches . . .	5	6	8	10	12
Faced only . . .	10.50	12.65	20.00	31.50	46.50
Faced & Drilled	12.00	14.60	22.40	35.50	51.00
Extra for Galv'd.	7.25	9.00	13.50	22.00	31.00

Size, inches . . .	14	16	18	20	24
Faced only . . .	69.00	91.00	118.00	150.00	233.00
Faced & Drilled	74.50	98.50	127.00	160.00	248.00
Extra for Galv'd	45.00	60.00	On application		

*Single Sweep Tees and Double Sweep
Tees take the same list prices.*

Reducing Tees

Single Sweep and Double Sweep

Size, inches . . .	2	2½	3	3½	4
Faced only . . .	5.75	6.00	6.60	7.75	8.65
Faced & Drilled	6.65	6.90	7.70	9.00	10.15
Extra for Galv'd	3.60	3.75	4.15	4.90	5.50

Size, inches . . .	5	6	8	10	12
Faced only . . .	12.00	14.50	23.00	36.00	53.50
Faced & Drilled	13.50	16.45	25.40	40.00	58.00
Extra for Galv'd	7.25	9.00	13.50	22.00	31.00

Size, inches . . .	14	16	18	20	24
Faced only . . .	79.00	105.00	135.00	173.00	268.00
Faced & Drilled	84.50	112.50	144.00	183.00	283.00
Extra for Galv'd	45.00	60.00	On application		

For Reducing Sizes, see page 96.

THOMAS ROBERTSON & COMPANY, LIMITED

Standard Cast Iron Flanged Fittings

For 125 lbs Steam Working Pressure

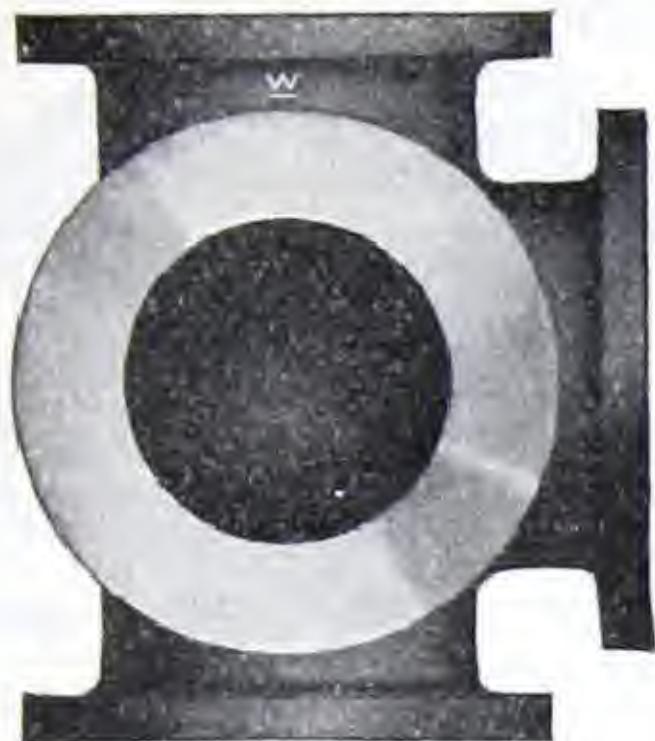


Fig. G-207
Side Outlet Tee



Fig. G-208—Cross



Fig. G-209—Reducing Cross

Size, inches .	4	5	6	8	10	12	14	16
Faced only . . .	31.00	35.00	42.25	56.75	84.50	114.00	142.50	170.00
Faced & Drill. . .	33.00	37.00	45.00	60.00	90.00	120.00	150.00	180.00

Reducing

Size, inches .	4	5	6	8	10	12	14	16
Faced only . . .	34.00	39.00	47.25	62.75	94.50	126.00	157.50	190.00
Faced & Drilled . . .	36.00	41.00	50.00	66.00	100.00	132.00	165.00	200.00

Extra for galvanizing on application.

For Reducing Sizes, see page 96.

Size, ins.	1 $\frac{1}{4}$ -1 $\frac{1}{2}$	2	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	4	5	6
Faced . . .	6.75	6.75	6.95	7.65	9.00	10.00	13.75	16.75
F. & D. . .	7.95	7.95	8.15	9.05	10.70	12.00	15.75	19.25
Extra								
Galv'd. . .	4.80	4.80	5.00	5.50	6.50	7.25	9.75	12.00

Size, ins.	8	10	12	14	16	18	20	24
Faced . . .	26.50	42.00	61.50	91.00	120.00	157.00	198.00	310.00
F. & D. . .	29.75	47.50	67.50	98.50	130.00	169.00	212.00	330.00
Extra								
Galv'd. . .	18.00	29.00	42.00	60.00	80.00	On application		

Reducing Crosses

Size, ins. .	2	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	4	5	6	8
Faced . . .	7.75	8.00	8.75	10.35	11.50	15.75	19.25	30.50
F. & D. . .	8.95	9.20	10.15	12.05	13.50	17.75	21.75	33.75
Extra								
Galv'd. . .	4.80	5.00	5.50	6.50	7.25	9.75	12.00	18.00

Size, inches .	10	12	14	16	18	20	24
Faced . . .	48.00	71.00	105.00	138.00	180.00	228.00	355.00
F. & D. . .	53.50	77.00	112.50	148.00	192.00	242.00	375.00
Extra Galv'd	29.00	42.00	60.00	80.00	On application		

For Reducing Sizes, see page 96.

Fittings are supplied "Faced & Drilled" unless ordered otherwise

Standard Cast Iron Flanged Fittings

For 125 lbs. Steam Working Pressure



Fig. G-210—Y Branch

Size, inches	2	2½	3	3½	4	5	6	8
Faced only	6.75	6.95	7.65	9.00	10.00	13.75	16.75	26.50
Faced & Drilled	7.95	8.15	9.05	10.70	12.00	15.75	19.25	29.75
Extra for Galv'd.	4.80	5.00	5.50	6.50	7.25	9.75	12.00	18.00

Size, inches	10	12	14	16	18	20	24
Faced only	42.00	61.50	91.00	120.00	157.00	198.00	310.00
Faced & Drilled	47.50	67.50	98.50	130.00	169.00	212.00	330.00
Extra for Galv'd.	29.00	42.00	60.00	80.00	On application		



Fig. G-211—Y Branch Reducing

Size, inches	2	2½	3	3½	4	5	6	8
Faced only	7.75	8.00	8.75	10.35	11.50	15.75	19.25	30.50
Faced & Drilled	8.95	9.20	10.15	12.05	13.50	17.75	21.75	33.75
Extra for Galv'd.	4.80	5.00	5.50	6.50	7.25	9.75	12.00	18.00

Size, inches	10	12	14	16	18	20	24
Faced only	48.00	71.00	105.00	138.00	180.00	228.00	355.00
Faced & Drilled	53.50	77.00	112.50	148.00	192.00	242.00	375.00
Extra for Galv'd.	29.00	42.00	60.00	80.00	On application		

For Reducing Sizes, see page 96.



Fig. G-212—Taper Reducer

Size, inches	3	3½	4	5	6	8	10
Faced only	6.90	8.10	9.00	12.50	15.25	24.00	38.00
Faced & Drilled	7.60	8.95	10.00	13.50	16.55	25.60	40.70
Extra for Galv'd.	2.75	3.25	3.65	4.85	6.00	9.00	14.50

Size, inches	12	14	16	18	20	24
Faced only	56.00	70.00	90.00	105.00	120.00	190.00
Faced & Drilled	59.00	73.75	95.00	111.00	127.00	200.00
Extra for Galv'd.	21.00	30.00	40.00	On application		

For Reducing Sizes, see page 96.

Fittings are supplied "Faced and Drilled" unless ordered otherwise

THOMAS ROBERTSON & COMPANY, LIMITED

Standard Cast Iron Companion Flanges

For 125 lbs. Steam Working Pressure



Fig. G-213

Pipe Size, inches	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	4
Diam. Flange	4 $\frac{1}{4}$ "	4 $\frac{5}{8}$ "	5"	6"	7"	7 $\frac{1}{2}$ "	8 $\frac{1}{2}$ "	9"
Faced only . . . . .	.55	.60	.65	.75	.85	.95	1.20	1.35
Faced & Drilled . . . . .	.80	.85	.90	1.00	1.10	1.25	1.55	1.80
Extra for Galv'd. . . . .	.60	.60	.60	.70	.75	.85	1.00	1.20

Pipe Size, inches	5	6	8	10	12	O.D. 14	O.D. 16	O.D. 18	O.D. 20	O.D. 24
Diam. Flange	10"	11"	13 $\frac{1}{2}$ "	16"	19"	21"	23 $\frac{1}{2}$ "	25"	27 $\frac{1}{2}$ "	32"
Faced only	1.60	2.00	3.10	4.50	6.50	9.00	13.50	16.00	19.00	27.00
Faced & Drilled	2.05	2.50	3.80	5.50	7.65	10.35	15.30	18.00	21.50	30.50
Extra for Galv'd.	1.35	1.65	2.50	3.75	5.00	7.00	10.50	On application		

Reducing Flanges



Pipe Size, inches	1-1 $\frac{1}{2}$	1 $\frac{1}{2}$ -2	1 $\frac{1}{2}$ -2 $\frac{1}{2}$	2-3	2-3 $\frac{1}{2}$	2-4
Diam. Flange	6"	7"	7 $\frac{1}{2}$ "	8 $\frac{1}{2}$ "	9"	10"
Faced only	1.30	1.45	1.55	2.00	2.20	2.65
Faced & Drilled	1.55	1.70	1.85	2.35	2.65	3.10
Extra for Galv'd.	1.00	1.10	1.25	1.50	1.80	2.00

Fig. G-214

Pipe Size, inches	2-5	2-6	2 $\frac{1}{2}$ -8	6-10	8-12	O.D. 10-14	O.D. 12-16	O.D. 14-18	O. D. 14-20
Diam. Flange	11"	13 $\frac{1}{2}$ "	16"	19"	21"	23 $\frac{1}{2}$ "	25"	27 $\frac{1}{2}$ "	32"
Faced only	3.30	5.10	7.45	10.75	15.00	22.00	26.50	31.00	44.00
Faced & Drilled	3.80	5.80	8.45	11.90	16.35	23.80	28.50	33.50	47.50
Extra for Galv'd.	2.50	3.75	5.75	7.50	10.50	16.00	On application		

Blind Flanges



Fig. G-215

Pipe Size, inches	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	4
Diam. Flange	4 $\frac{1}{4}$ "	4 $\frac{5}{8}$ "	5"	6"	7"	7 $\frac{1}{2}$ "	8 $\frac{1}{2}$ "	9"
Faced only . . . . .	.85	.90	1.00	1.15	1.30	1.40	1.80	2.00
Faced & Drilled	1.10	1.15	1.25	1.40	1.55	1.70	2.15	2.45
Extra for Galv'd. . . . .	..	..	..	1.00	1.10	1.25	1.50	1.80

Pipe Size, inches	5	6	8	10	12	14	16	18	20	24
Diam. Flange	10"	11"	13 $\frac{1}{2}$ "	16"	19"	21"	23 $\frac{1}{2}$ "	25"	27 $\frac{1}{2}$ "	32"
Faced only	2.40	3.00	4.60	6.75	9.75	13.50	20.00	24.00	28.00	40.00
Faced & Drilled	2.85	3.50	5.30	7.75	10.90	14.85	21.80	26.00	30.30	43.50
Extra for Galv'd.	2.00	2.50	3.75	5.75	7.50	10.50	16.00	On application		

Extra Heavy Cast Iron Flanged Fittings

For 250 lbs. Steam Working Pressure

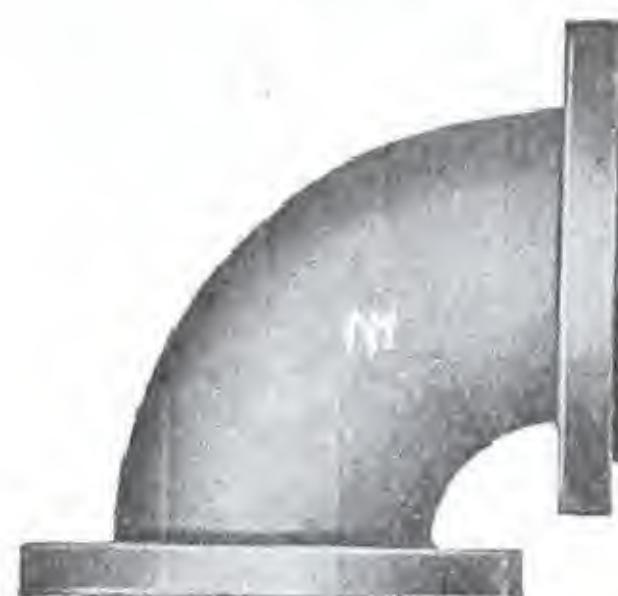


Fig. G-216—90° Elbow



Fig. G-217—45° Elbow



Fig. G-218—Tee

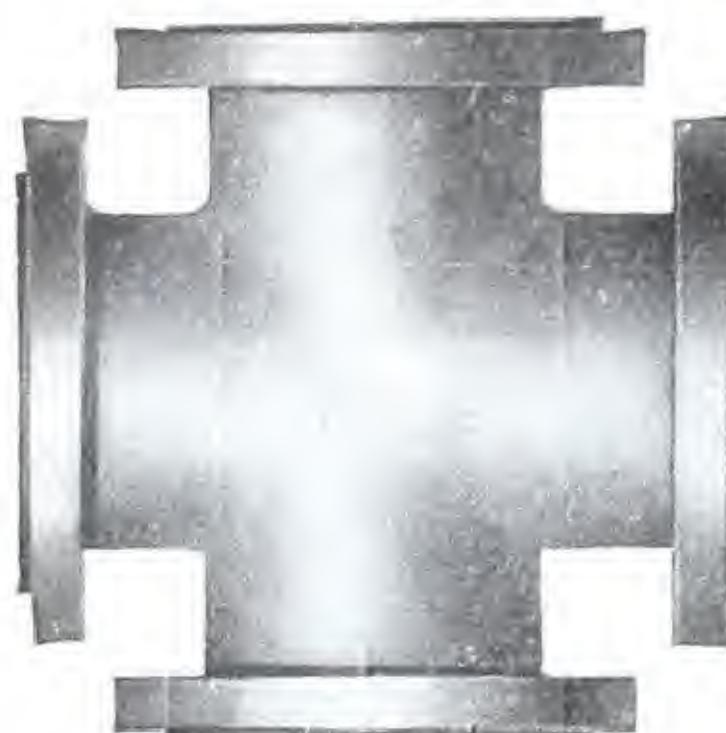


Fig. G-219—Cross



Fig. G-220—Y Branch

COMPANION
FLANGE



Fig. G-221

Price Lists — Elbows

Size, inches	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	4	5
90° Elbow, Faced only	4.50	4.50	4.50	4.75	5.15	6.10	6.75	9.35
" " Faced & Drilled	5.40	5.40	5.40	5.65	6.25	7.35	8.25	10.85
45° Elbow, Faced only	5.00	5.00	5.00	5.25	5.65	6.75	7.50	10.35
" " Faced & Drilled	5.90	5.90	5.90	6.15	6.75	8.00	9.00	11.85

Size, inches	6	8	10	12	14	16	18	20	24
90° Elbow, Faced	11.40	18.00	28.50	42.00	62.00	82.00	106.00	135.00	210.00
" " F. & D.	13.40	20.50	32.50	46.50	67.50	90.00	115.00	145.00	225.00
45° Elbow, Faced	12.50	19.00	30.00	44.00	62.00	82.00	106.00	135.00	210.00
" " F. & D.	14.50	21.50	34.00	48.50	67.50	90.00	115.00	145.00	225.00

For Drilling Templates, and prices for Machine Bolts, see pages 98-99

THOMAS ROBERTSON & COMPANY, LIMITED

Extra Heavy Cast Iron Flanged Fittings

Taper Reducing Elbows

Size, inches	2	2½	3	3½	4	5	6	8	10	12	14	16
Faced only	9.00	9.50	10.25	12.25	13.50	18.75	22.75	36.00	57.00	84.00	105.00	135.00
Faced & Drilled	9.90	10.40	11.35	13.50	15.00	20.25	24.75	38.50	61.00	88.50	110.50	143.00

Long Radius Elbows

Size, inches	1½	2	2½	3	3½	4	5	6
Faced only	7.50	7.50	8.00	8.60	10.25	11.25	15.50	19.00
Faced & Drilled	8.85	8.85	9.35	10.25	12.15	13.50	17.75	22.00

Size, inches	8	10	12	14	16	18	20	24
Faced only	30.00	47.75	70.00	103.50	137.00	177.00	225.00	350.00
Faced & Drilled	33.75	53.75	76.75	111.75	149.00	191.00	240.00	373.00

Base Elbows

Size, inches	4	5	6	8	10	12	14	16	18	20	24
Faced only { except	13.50	18.75	22.75	36.00	57.00	84.00	105.00	135.00	157.00	180.00	285.00
F. & D. { Base	15.00	20.25	24.75	38.50	61.00	88.50	110.50	143.00	166.00	190.00	300.00
Facing & Drilling Base	4.50	5.25	5.25	7.50	7.50	11.00	11.00	11.00	18.00	18.00	18.00

Side Outlet Elbows

Size, inches	4	5	6	8	10	12	14	16
Faced only	35.75	37.75	42.00	61.25	89.00	113.25	146.75	168.00
Faced & Drilled	38.00	40.00	45.00	65.00	95.00	120.00	155.00	180.00

Side Outlet Elbows – Reducing

Size, inches	4	5	6	8	10	12	14	16
Faced only	39.75	41.75	47.00	67.25	99.00	123.25	161.75	183.00
Faced & Drilled	42.00	44.00	50.00	71.00	105.00	130.00	170.00	195.00

For Reducing Sizes, see page 97.

List Prices continued on next page.

THOMAS ROBERTSON & COMPANY, LIMITED

Extra Heavy Cast Iron Flanged Fittings
Double Branch Elbows

Size, inches	4	5	6	8	10	12	14	16
Faced only	35.75	42.75	49.50	66.25	84.00	108.25	141.75	168.00
Faced & Drilled	38.00	45.00	52.50	70.00	90.00	115.00	150.00	180.00

Double Branch Elbows – Reducing

Size, inches	4	5	6	8	10	12	14	16
Faced only	39.75	47.75	54.50	73.75	94.00	118.25	156.75	188.00
Faced & Drilled	42.00	50.00	57.50	77.50	100.00	125.00	165.00	200.00

Smaller or larger Sizes (Straight or Reducing) made to order

Tees

Size, inches	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	4	5	6
Faced only	6.50	6.50	6.50	6.90	7.50	8.90	9.75	13.50	16.50
Faced & Drilled	7.85	7.85	7.85	8.25	9.15	10.80	12.00	15.75	19.50

Size, inches	8	10	12	14	16	18	20	24
Faced only	26.00	41.50	61.00	90.00	119.00	154.00	195.00	305.00
Faced & Drilled	29.75	47.50	67.75	98.25	131.00	168.00	210.00	328.00

Reducing Tees

Reducing on Run or Branch

Size, inches	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	4	5	6
Faced only	7.50	7.50	8.00	8.60	10.25	11.25	15.50	19.00
Faced & Drilled	8.85	8.85	9.35	10.25	12.15	13.50	17.75	22.00

Size, inches	8	10	12	14	16	18	20	24
Faced only	30.00	47.75	70.00	103.50	137.00	177.00	225.00	350.00
Faced & Drilled	33.75	53.75	76.75	111.75	149.00	191.00	240.00	373.00

Tees — Single or Double Sweep

Size, inches	2	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	4	5	6	8
Faced only	7.50	8.00	8.60	10.25	11.25	15.50	19.00	30.00
Faced & Drilled	8.85	9.35	10.25	12.15	13.50	17.75	22.00	33.75

Size, inches	10	12	14	16	18	20	24
Faced only	47.75	70.00	103.50	137.00	177.00	225.00	350.00
Faced & Drilled	53.75	76.75	111.75	149.00	191.00	240.00	373.00

THOMAS ROBERTSON & COMPANY, LIMITED

Extra Heavy Cast Iron Flanged Fittings

Single and Double Sweep Tees – Reducing

Size, inches	2½	3	3½	4	5	6	8
Faced only	9.15	9.90	11.75	13.00	17.85	22.00	34.50
Faced & Drilled	10.50	11.15	13.65	15.25	20.10	25.00	38.25
Size, inches	10	12	14	16	18	20	24
Faced only	55.00	80.00	119.00	158.00	204.00	260.00	402.00
Faced & Drilled	61.00	86.75	127.25	170.00	218.00	275.00	425.00

Side Outlet Tees

Size, inches	4	5	6	8	10	12	14	16
Faced only	42.00	47.00	53.50	72.50	102.00	131.00	159.00	184.00
Faced & Drilled	45.00	50.00	57.50	77.50	110.00	140.00	170.00	200.00

Side Outlet Tees – Reducing

Size, inches	4	5	6	8	10	12	14	16
Faced only	47.00	52.00	59.00	80.00	112.00	146.00	174.00	204.00
Faced & Drilled	50.00	55.00	63.00	85.00	120.00	155.00	185.00	220.00

Crosses

Size, inches	1½	1½	2	2½	3	3½	4	5	6
Faced only	10.00	10.00	10.00	10.50	11.50	13.50	15.00	20.50	25.00
Faced & Drilled	11.80	11.80	11.80	12.30	13.75	16.00	18.00	23.50	29.00

Size, inches	8	10	12	14	16	18	20	24
Faced only	40.00	63.00	92.00	136.00	180.00	235.00	300.00	465.00
Faced & Drilled	45.00	71.00	101.00	147.00	196.00	253.00	320.00	495.00

Crosses – Reducing

Size, inches	2	2½	3	3½	4	5	6	8
Faced only	11.50	12.00	13.25	15.50	17.00	23.50	29.00	46.00
Faced & Drilled	13.30	13.80	15.50	18.00	20.00	26.50	33.00	51.00

Size, inches	10	12	14	16	18	20	24
Faced only	72.00	106.00	158.00	207.00	270.00	345.00	535.00
Faced & Drilled	80.00	115.00	169.00	223.00	288.00	365.00	565.00

For Reducing Sizes, see page 97.

List Prices continued on next page.

For Drilling Templates, and prices for Machine Bolts, see pages 98-99

THOMAS ROBERTSON & COMPANY, LIMITED

Extra Heavy Cast Iron Flanged Fittings

Y Branches

Size, inches	2	2½	3	3½	4	5	6	8
Faced only	10.00	10.50	11.50	13.50	15.00	20.50	25.00	40.00
Faced & Drilled	11.80	12.30	13.75	16.00	18.00	23.50	29.00	45.00

Size, inches	10	12	14	16	18	20	24
Faced only	63.00	92.00	136.00	180.00	235.00	300.00	465.00
Faced & Drilled	71.00	101.00	147.00	196.00	253.00	320.00	495.00

Reducing Y Branches

Size, inches	2½	3	3½	4	5	6	8
Faced only	12.00	13.25	15.50	17.00	23.50	29.00	46.00
Faced & Drilled	13.80	15.50	18.00	20.00	26.50	33.00	51.00

Size, inches	10	12	14	16	18	20	24
Faced only	72.00	106.00	158.00	207.00	270.00	345.00	535.00
Faced & Drilled	80.00	115.00	169.00	223.00	288.00	365.00	565.00

Taper Reducer

Size, inches	2½	3	3½	4	5	6	8
Faced only	9.50	10.25	12.25	13.50	18.75	22.75	36.00
Faced & Drilled	10.40	11.35	13.50	15.00	20.25	24.75	38.50

Size, inches	10	12	14	16	18	20	24
Faced only	57.00	84.00	105.00	135.00	157.00	180.00	285.00
Faced & Drilled	61.00	88.50	110.50	143.00	166.00	190.00	300.00

For Reducing Sizes, see page 97.

For Drilling Templates, and prices for Machine Bolts, see pages 98-99

THOMAS ROBERTSON & COMPANY, LIMITED

Extra Heavy Cast Iron Flanges

For 250 lbs. Steam Working Pressure

For Illustrations, see page 89.

Fig. G-213. Companion Flanges

Pipe Size, inches	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	4	5
Diam. Flange "	4 $\frac{1}{8}$	5 $\frac{1}{4}$	6 $\frac{1}{8}$	6 $\frac{1}{2}$	7 $\frac{1}{2}$	8 $\frac{1}{4}$	9	10	11
Faced only . . . . .	.95	1.00	1.10	1.25	1.40	1.60	2.00	2.25	2.65
Faced & Drilled	1.30	1.35	1.45	1.60	1.75	2.05	2.55	2.95	3.35

Pipe Size, inches	6	8	10	12	O.D. 14	O.D. 16	O.D. 18	O.D. 20	O.D. 24
Diam. Flange "	12 $\frac{1}{2}$	15	17 $\frac{1}{2}$	20 $\frac{1}{2}$	23	25 $\frac{1}{2}$	28	30 $\frac{1}{2}$	36
Faced only	3.30	5.10	7.40	10.75	15.00	22.25	26.00	31.00	45.00
Faced & Drilled	4.05	6.15	8.90	12.50	17.00	25.00	29.00	35.00	50.00

Fig. G-214. Reducing Flanges

Pipe Size, inches	1 $\frac{1}{4}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$ -2	1 $\frac{1}{2}$ -2 $\frac{1}{2}$	1 $\frac{1}{2}$ -3	1 $\frac{1}{2}$ -3 $\frac{1}{2}$	1 $\frac{1}{2}$ -4	1 $\frac{1}{2}$ -5
Diam. Flange "	6 $\frac{1}{4}$	6 $\frac{1}{2}$	7 $\frac{1}{2}$	8 $\frac{1}{4}$	9	10	11	12 $\frac{1}{2}$
Faced only	1.80	2.10	2.30	2.65	3.30	3.70	4.40	5.50
Faced & Drilled	2.15	2.45	2.65	3.10	3.85	4.40	5.10	6.25

Pipe Size, inches	1 $\frac{1}{2}$ -6	2-8	2 $\frac{1}{2}$ -10	6-12	O.D. 10-14	O.D. 12-16	O.D. 14-18	O.D. 18-20
Diam. Flange "	15	17 $\frac{1}{2}$	20 $\frac{1}{2}$	23	25 $\frac{1}{2}$	28	30 $\frac{1}{2}$	36
Faced only	8.40	12.00	17.50	25.00	37.00	43.00	51.00	74.00
Faced & Drilled	9.45	13.50	19.25	27.00	39.75	46.00	55.00	79.00

Fig. G-215. Blind Flanges

Pipe Size, inches	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	4	5	6
Diam. Flange "	6 $\frac{1}{8}$	6 $\frac{1}{2}$	7 $\frac{1}{2}$	8 $\frac{1}{4}$	9	10	11	12 $\frac{1}{2}$
Faced only	1.65	1.90	2.10	2.40	3.00	3.35	4.00	5.00
Faced & Drilled	2.00	2.25	2.45	2.85	3.55	4.05	4.70	5.75

Pipe Size, inches	8	10	12	O.D. 14	O.D. 16	O.D. 18	O.D. 20	O.D. 24
Diam. Flange "	15	17 $\frac{1}{2}$	20 $\frac{1}{2}$	23	25 $\frac{1}{2}$	28	30 $\frac{1}{2}$	36
Faced only	7.65	11.00	16.00	22.50	33.50	39.00	46.00	67.00
Faced & Drilled	8.70	12.50	17.25	24.50	36.25	42.00	50.00	72.00

Sizes 14" and larger are tapped to be used with O.D. pipe of same sizes.

THOMAS ROBERTSON & COMPANY, LIMITED

Standard Flanged Fittings - Reducing Sizes

Reducing Elbows

1½ x 1½	3 x 1½	3½ x 2	4 x 2	4 x 3½	5 x 4	6 x 3½	8 x 3	8 x 6	10 x 8	12 x 10	16 x 12	20 x 14
2 x 1½	3 x 2	3½ x 2½	4 x 2½	5 x 2½	6 x 2½	6 x 4	8 x 4	10 x 5	12 x 6	14 x 10	16 x 14	20 x 16
2½ x 2	3 x 2½	3½ x 3	4 x 3	5 x 3	6 x 3	6 x 5	8 x 5	10 x 6	12 x 8	14 x 12	18 x 16	20 x 18

Reducing Tees

2 x 2 x 1½	3½ x 3½ x 2	3 x 3 x 4	5 x 3 x 3	6 x 4 x 5	8 x 3 x 8	10 x 10 x 2	12 x 12 x 5	14 x 14 x 10
2½ x 2½ x 2	3½ x 2½ x 2½	5 x 5 x 4	6 x 4 x 5	6 x 4 x 4	8 x 6 x 6	10 x 8 x 10	12 x 12 x 4	14 x 14 x 8
2½ x 2½ x 1½	4 x 4 x 3½	5 x 5 x 3½	6 x 6 x 5	6 x 4 x 2½	8 x 6 x 4	10 x 6 x 10	12 x 12 x 3	14 x 14 x 6
2½ x 2 x 1½	4 x 4 x 3	5 x 5 x 3	6 x 6 x 4	5 x 5 x 6	8 x 6 x 3	10 x 4 x 10	12 x 10 x 12	14 x 12 x 14
3 x 3 x 2½	4 x 4 x 2½	5 x 5 x 2½	6 x 6 x 3½	5 x 4 x 6	8 x 5 x 6	10 x 3 x 10	12 x 8 x 12	14 x 12 x 12
3 x 3 x 2	4 x 4 x 1½	5 x 5 x 1½	6 x 6 x 2½	4 x 4 x 6	8 x 5 x 5	10 x 8 x 8	12 x 6 x 12	14 x 10 x 10
3 x 3 x 1½	4 x 4 x 1½	5 x 5 x 1½	6 x 6 x 2	8 x 8 x 6	8 x 4 x 6	10 x 8 x 6	12 x 4 x 12	10 x 10 x 14
3 x 3 x 1½	4 x 3½ x 4	5 x 4 x 5	6 x 6 x 1½	8 x 8 x 5	6 x 6 x 8	10 x 8 x 5	12 x 10 x 10	16 x 16 x 14
3 x 2½ x 3	4 x 3 x 4	5 x 3 x 5	6 x 5 x 6	8 x 8 x 4	5 x 5 x 8	10 x 6 x 8	12 x 10 x 6	16 x 16 x 12
3 x 2½ x 2½	4 x 2½ x 4	5 x 2½ x 5	6 x 4 x 6	8 x 8 x 3½		10 x 6 x 6	12 x 8 x 10	16 x 16 x 10
3 x 2½ x 2	4 x 2 x 4	5 x 2 x 5	6 x 3 x 6	8 x 8 x 3	10 x 10 x 8	8 x 8 x 10	12 x 8 x 8	16 x 16 x 8
3 x 2 x 2½	4 x 3 x 3	5 x 4 x 4	6 x 2½ x 6	8 x 8 x 2½	10 x 10 x 6	8 x 6 x 10	12 x 8 x 6	16 x 16 x 6
3 x 2 x 3	4 x 3 x 2½	5 x 4 x 3	6 x 2 x 6	8 x 8 x 2	10 x 10 x 5	6 x 6 x 10	12 x 6 x 8	16 x 12 x 12
2½ x 2½ x 3	4 x 3 x 2	5 x 4 x 2½	6 x 5 x 5	8 x 6 x 8	10 x 10 x 4		10 x 10 x 12	12 x 12 x 16
	4 x 2½ x 3	5 x 4 x 2	6 x 5 x 4	8 x 5 x 8	10 x 10 x 3½	12 x 12 x 10	8 x 8 x 12	
3½ x 3½ x 3	4 x 2½ x 2½	5 x 3½ x 4	6 x 5 x 3	8 x 4 x 8	10 x 10 x 3	12 x 12 x 8		
3½ x 3½ x 2½	4 x 2 x 2	5 x 3 x 3½	6 x 5 x 2½	8 x 3½ x 8	10 x 10 x 2½	12 x 12 x 6	14 x 14 x 12	

Reducing Single Sweep Tees

6 x 6 x 5 6 x 6 x 4 6 x 6 x 3 6 x 6 x 2½ 8 x 8 x 6 8 x 8 x 5 8 x 8 x 3 8 x 6 x 6 8 x 6 x 4 10 x 10 x 6 10 x 8 x 8 10 x 6 x 6

Reducing Double Sweep Tees

4 x 4 x 2 6 x 6 x 5 6 x 6 x 4 6 x 6 x 3 8 x 8 x 6 10 x 10 x 8 10 x 10 x 6 10 x 10 x 5 10 x 10 x 4

In Describing Tees the run is named first and the outlet last.

Reducing Crosses

4 x 4 x 3 x 3	5 x 5 x 3 x 3	6 x 6 x 5 x 5	6 x 6 x 3 x 3	8 x 8 x 5 x 5	8 x 8 x 3 x 3	8 x 6 x 8 x 6	10 x 10 x 6 x 6
5 x 5 x 4 x 4	5 x 5 x 2½ x 2½	6 x 6 x 4 x 4	8 x 8 x 6 x 6	8 x 8 x 4 x 4	8 x 6 x 6 x 6	10 x 10 x 8 x 8	10 x 10 x 5 x 5

In describing Crosses the run openings are named first, then the outlets.

Reducing Y Branches

4 x 4 x 2½ 6 x 6 x 4 6 x 6 x 3 6 x 6 x 2½ 8 x 8 x 6 8 x 6 x 6 8 x 8 x 3 10 x 10 x 8 10 x 10 x 6 10 x 8 x 8

Taper Reducers

3 x 2	4 x 3	5 x 4	6 x 5	8 x 6	10 x 8	12 x 10	14 x 12	16 x 14	18 x 16	20 x 18
3½ x 2½	5 x 2	6 x 3	8 x 3	10 x 4	12 x 5	14 x 6	16 x 8	18 x 10	20 x 12	24 x 16
4 x 2	5 x 2½	6 x 3½	8 x 4	10 x 5	12 x 6	14 x 8	16 x 10	18 x 12	20 x 14	24 x 18
4 x 2½	5 x 3	6 x 4	8 x 5	10 x 6	12 x 8	14 x 10	16 x 12	18 x 14	20 x 16	24 x 20

For List Prices see pages 82-88.

THOMAS ROBERTSON & COMPANY, LIMITED

Extra Heavy Flanged Fittings - Reducing Sizes

Reducing Elbows

2 x 1 $\frac{1}{2}$	2 $\frac{1}{2}$ x 2	3 x 2 $\frac{1}{2}$	3 $\frac{1}{2}$ x 3	4 x 3	5 x 3	6 x 3 $\frac{1}{2}$	8 x 4	10 x 5	12 x 8	14 x 10	16 x 10
2 x 1 $\frac{1}{2}$	3 x 1 $\frac{1}{2}$	3 $\frac{1}{2}$ x 2	4 x 2	4 x 3 $\frac{1}{2}$	5 x 4	6 x 4	8 x 5	10 x 6	12 x 10	14 x 12	16 x 12
2 $\frac{1}{2}$ x 1 $\frac{1}{2}$	3 x 2	3 $\frac{1}{2}$ x 2 $\frac{1}{2}$	4 x 2 $\frac{1}{2}$	5 x 2 $\frac{1}{2}$	6 x 3	6 x 5	8 x 6	10 x 8	14 x 6	16 x 8	16 x 14

Reducing Tees

2 $\frac{1}{2}$ x 2 $\frac{1}{2}$ x 2	2 x 2 x 3	4 x 3 x 1 $\frac{1}{2}$	5 x 4 x 3	6 x 5 x 5	8 x 8 x 3	10 x 10 x 8	12 x 12 x 10	14 x 14 x 12
2 $\frac{1}{2}$ x 2 $\frac{1}{2}$ x 1 $\frac{1}{2}$	3 x 1 $\frac{1}{2}$	4 x 2 $\frac{1}{2}$	5 x 4 x 2 $\frac{1}{2}$	6 x 5 x 4	8 x 8 x 2 $\frac{1}{2}$	10 x 10 x 6	12 x 12 x 8	14 x 14 x 10
2 $\frac{1}{2}$ x 2 $\frac{1}{2}$ x 1 $\frac{1}{4}$	3 $\frac{1}{2}$ x 3 $\frac{1}{2}$ x 2 $\frac{1}{2}$	4 x 2 x 3	5 x 3 x 4	6 x 5 x 3	8 x 8 x 2	10 x 10 x 5	12 x 12 x 6	14 x 14 x 8
2 $\frac{1}{2}$ x 2 x 2	3 $\frac{1}{2}$ x 3 $\frac{1}{2}$ x 2	3 x 3 x 4	5 x 3 x 3	6 x 5 x 2 $\frac{1}{2}$	8 x 6 x 8	10 x 10 x 4	12 x 12 x 5	14 x 14 x 6
...	3 $\frac{1}{2}$ x 2 $\frac{1}{2}$ x 3 $\frac{1}{2}$	2 $\frac{1}{2}$ x 2 $\frac{1}{2}$ x 4	4 x 4 x 5	6 x 5 x 2	8 x 4 x 8	10 x 10 x 3 $\frac{1}{2}$	12 x 12 x 4	14 x 14 x 5
3 x 3 x 2 $\frac{1}{2}$	...	...	...	6 x 4 x 5	8 x 3 x 8	10 x 10 x 3	12 x 12 x 3	14 x 12 x 8
3 x 3 x 2	4 x 4 x 3 $\frac{1}{2}$	5 x 5 x 4	6 x 6 x 5	6 x 4 x 4	8 x 6 x 6	10 x 10 x 2	12 x 12 x 2 $\frac{1}{2}$	...
3 x 3 x 1 $\frac{1}{2}$	4 x 4 x 3	5 x 5 x 3 $\frac{1}{2}$	6 x 6 x 4	6 x 4 x 3	8 x 6 x 5	10 x 8 x 10	12 x 10 x 12	16 x 16 x 10
3 x 3 x 1 $\frac{1}{4}$	4 x 4 x 2 $\frac{1}{2}$	5 x 5 x 3	6 x 6 x 3 $\frac{1}{2}$	6 x 3 x 3	8 x 6 x 4	10 x 6 x 10	12 x 8 x 12	16 x 16 x 8
3 x 3 x 1	4 x 4 x 2	5 x 5 x 2 $\frac{1}{2}$	6 x 6 x 3	5 x 5 x 6	8 x 5 x 6	10 x 8 x 8	12 x 10 x 10	16 x 16 x 6
3 x 2 $\frac{1}{2}$ x 3	4 x 4 x 1 $\frac{1}{2}$	5 x 5 x 2	6 x 6 x 2 $\frac{1}{2}$	4 x 4 x 6	8 x 5 x 5	10 x 8 x 6	12 x 10 x 8	...
3 x 2 x 3	4 x 3 x 4	5 x 5 x 1 $\frac{1}{2}$	6 x 6 x 2	...	8 x 4 x 6	10 x 8 x 5	12 x 10 x 6	...
3 x 1 $\frac{1}{2}$ x 3	4 x 2 $\frac{1}{2}$ x 4	5 x 4 x 5	6 x 5 x 6	8 x 8 x 6	8 x 4 x 4	10 x 6 x 8	12 x 8 x 8	...
3 x 1 $\frac{1}{4}$ x 3	4 x 2 x 4	5 x 3 x 5	6 x 4 x 6	8 x 8 x 5	6 x 6 x 8	10 x 6 x 6	12 x 8 x 6	...
3 x 2 $\frac{1}{2}$ x 2 $\frac{1}{2}$	4 x 3 x 3	5 x 2 $\frac{1}{2}$ x 5	6 x 3 x 6	8 x 8 x 4	5 x 5 x 8	8 x 8 x 10	10 x 10 x 12	...
3 x 2 x 2	4 x 3 x 2	5 x 4 x 4	6 x 2 $\frac{1}{2}$ x 6	8 x 8 x 3 $\frac{1}{2}$	8 x 8 x 12	...

Reducing Single Sweep Tees

4 x 4 x 2 $\frac{1}{2}$	4 x 4 x 2	6 x 6 x 4	6 x 4 x 4	8 x 8 x 6	8 x 6 x 6
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Reducing Double Sweep Tees

5 x 5 x 4	5 x 5 x 3	6 x 6 x 3	8 x 8 x 6	8 x 8 x 5
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Reducing Crosses

3 x 3 x 2 $\frac{1}{2}$ x 2 $\frac{1}{2}$	4 x 4 x 2 $\frac{1}{2}$ x 2 $\frac{1}{2}$	6 x 6 x 4 x 4	6 x 6 x 3 x 3	8 x 8 x 6 x 6	8 x 8 x 5 x 5	8 x 8 x 4 x 4
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Reducing Y Branches

4 x 4 x 2 $\frac{1}{2}$	6 x 6 x 2 $\frac{1}{2}$
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Taper Reducers

3 x 2	4 x 3	5 x 4	6 x 5	8 x 6	10 x 8	12 x 10	14 x 12	16 x 14	18 x 16	20 x 18
3 $\frac{1}{2}$ x 2 $\frac{1}{2}$	5 x 2	6 x 3	8 x 3	10 x 4	12 x 5	14 x 6	16 x 8	18 x 10	20 x 12	24 x 16
4 x 2	5 x 2 $\frac{1}{2}$	6 x 3 $\frac{1}{2}$	8 x 4	10 x 5	12 x 6	14 x 8	16 x 10	18 x 12	20 x 14	24 x 18
4 x 2 $\frac{1}{2}$	5 x 3	6 x 4	8 x 5	10 x 6	12 x 8	14 x 10	16 x 12	18 x 14	20 x 16	24 x 20

For List Prices see pages 90-95.

Drilling Templates

for Standard Flanges, and Flanged Valves and Fittings

Size.....inches	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	4	5
Diam. Flange	4 $\frac{1}{4}$	4 $\frac{5}{8}$	5	6	7	7 $\frac{1}{2}$	8 $\frac{1}{2}$	9	10
Thickness	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{9}{16}$	$\frac{5}{8}$	$\frac{11}{16}$	$\frac{3}{4}$	$\frac{13}{16}$	$\frac{15}{16}$	$\frac{15}{16}$
Bolt Circle	3 $\frac{1}{8}$	3 $\frac{1}{2}$	3 $\frac{7}{8}$	4 $\frac{3}{4}$	5 $\frac{1}{2}$	6	7	7 $\frac{1}{2}$	8 $\frac{1}{2}$
Number of Bolts	4	4	4	4	4	4	8	8	8
Size Bolts, inches	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{5}{8}$
Length Bolts	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{3}{4}$	2	2 $\frac{1}{4}$	2 $\frac{1}{4}$	2 $\frac{1}{2}$	2 $\frac{1}{4}$	3

Size.....inches	6	8	10	12	14 O.D.	16 O.D.	18 O.D.	20 O.D.	24 O.D.
Diam. Flange	11	13 $\frac{1}{2}$	16	19	21	23 $\frac{1}{2}$	25	27 $\frac{1}{2}$	32
Thickness	1	$1\frac{1}{8}$	$1\frac{3}{16}$	$1\frac{1}{4}$	$1\frac{3}{8}$	$1\frac{7}{16}$	$1\frac{9}{16}$	$1\frac{11}{16}$	$1\frac{7}{8}$
Bolt Circle	9 $\frac{1}{2}$	11 $\frac{3}{4}$	14 $\frac{1}{4}$	17	18 $\frac{3}{4}$	21 $\frac{1}{4}$	22 $\frac{3}{4}$	25	29 $\frac{1}{2}$
Number of Bolts	8	8	12	12	12	16	16	20	20
Size Bolts, inches	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{7}{8}$	$\frac{7}{8}$	1	1	$1\frac{1}{8}$	$1\frac{1}{8}$	$1\frac{1}{4}$
Length Bolts	3	3 $\frac{1}{4}$	3 $\frac{1}{2}$	3 $\frac{3}{4}$	4 $\frac{1}{4}$	4 $\frac{1}{4}$	4 $\frac{2}{4}$	5	5 $\frac{1}{2}$

for Extra Heavy Flanges, and Flanged Valves and Fittings

Size.....inches	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	4	5
Diam. Flange	4 $\frac{7}{8}$	5 $\frac{1}{4}$	6 $\frac{1}{8}$	6 $\frac{1}{2}$	7 $\frac{1}{2}$	8 $\frac{1}{4}$	9	10	11
Thickness	$\frac{11}{16}$	$\frac{3}{4}$	$\frac{13}{16}$	$\frac{7}{8}$	1	$1\frac{1}{8}$	$1\frac{3}{16}$	$1\frac{1}{4}$	$1\frac{1}{8}$
Bolt Circle	3 $\frac{1}{2}$	3 $\frac{7}{8}$	4 $\frac{1}{2}$	5	$5\frac{1}{8}$	6 $\frac{5}{8}$	$7\frac{1}{4}$	$7\frac{1}{8}$	$9\frac{1}{4}$
Number of Bolts	4	4	4	8	8	8	8	8	8
Size Bolts, inches	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$
Length Bolts	2	2 $\frac{1}{4}$	2 $\frac{1}{2}$	2 $\frac{1}{2}$	3	3 $\frac{1}{4}$	3 $\frac{1}{4}$	3 $\frac{1}{2}$	3 $\frac{1}{2}$

Size.....inches	6	8	10	12	14 O.D.	16 O.D.	18 O.D.	20 O.D.	24 O.D.
Diam. Flange	12 $\frac{1}{2}$	15	17 $\frac{1}{2}$	20 $\frac{1}{2}$	23	25 $\frac{1}{2}$	28	30 $\frac{1}{2}$	36
Thickness	$1\frac{7}{16}$	$1\frac{5}{8}$	$1\frac{7}{8}$	2	$2\frac{1}{8}$	$2\frac{1}{4}$	$2\frac{3}{8}$	$2\frac{1}{2}$	$2\frac{3}{4}$
Bolt Circle	10 $\frac{1}{8}$	13	15 $\frac{1}{4}$	17 $\frac{1}{4}$	20 $\frac{1}{4}$	22 $\frac{1}{2}$	24 $\frac{3}{4}$	27	32
Number of Bolts	12	12	16	16	20	20	24	24	24
Size Bolts, inches	$\frac{3}{4}$	$\frac{7}{8}$	1	$1\frac{1}{2}$	$1\frac{1}{8}$	$1\frac{1}{4}$	$1\frac{1}{4}$	$1\frac{1}{4}$	$1\frac{1}{2}$
Length Bolts	3 $\frac{1}{4}$	4 $\frac{1}{4}$	5	$5\frac{1}{2}$	$5\frac{1}{4}$	6	$6\frac{1}{4}$	$6\frac{1}{4}$	$7\frac{1}{4}$

Bolt holes are drilled $\frac{1}{8}$ " inch larger than nominal diameter of bolts

Machine Bolts

With Square Head and Square
Nut for Flanged Fittings



Fig. G-222

Price Per 100

Length Under the Head Inches	Diam. $\frac{3}{16}$ & $\frac{1}{4}$ Inch	Diam. $\frac{5}{16}$ Inch	Diam. $\frac{3}{8}$ Inch	Diam. $\frac{7}{16}$ Inch	Diam. $\frac{1}{2}$ Inch	Diam. $\frac{9}{16}$ & $\frac{5}{8}$ Inch	Diam. $\frac{3}{4}$ Inch	Diam. $\frac{7}{8}$ Inch	Diam. 1 Inch	Diam. $1\frac{1}{8}$ Inch	Diam. $1\frac{1}{4}$ Inch
$\frac{3}{4}$	\$1.40	\$2.00	\$2.45	\$4.15	..	..	..	..	..	..	..
1	1.45	2.10	2.60	4.35	\$5.20	\$8.10	\$10.95	..	..	..	..
$1\frac{1}{4}$	1.55	2.20	2.75	4.55	5.40	8.35	10.95	..	..	..	..
$1\frac{1}{2}$	1.60	2.30	2.95	4.75	5.65	8.60	10.95	\$16.70	\$23.25	\$42.00	\$49.50
2	1.80	2.60	3.25	5.20	6.10	9.10	11.60	17.60	24.40	43.40	51.15
$2\frac{1}{2}$	2.00	2.85	3.60	5.70	6.55	9.60	12.25	18.50	25.55	44.60	52.80
3	2.15	3.05	3.90	6.10	7.00	10.10	12.90	19.40	26.70	45.90	54.45
$3\frac{1}{2}$	2.35	3.30	4.25	6.55	7.45	10.60	13.55	20.30	27.85	47.20	56.10
4	3.05	3.55	4.60	7.00	7.90	11.10	14.20	21.20	29.00	48.50	57.75
$4\frac{1}{2}$	3.20	4.25	4.90	7.40	8.35	11.60	14.85	22.10	30.15	49.80	59.40
5	3.35	4.50	5.55	7.85	8.80	12.10	15.50	23.00	31.30	51.10	61.05
$5\frac{1}{2}$	3.50	4.70	5.85	8.30	9.25	12.60	16.15	23.90	32.45	52.40	62.70
6	3.65	4.90	6.20	8.75	9.70	13.10	16.80	24.80	33.60	53.70	64.35
$6\frac{1}{2}$	3.80	5.10	6.50	9.20	10.15	13.60	17.45	25.70	34.75	55.00	66.00
7	4.00	5.35	6.85	9.65	10.60	14.10	18.10	26.60	35.90	56.30	67.65
$7\frac{1}{2}$	4.15	5.55	7.15	10.10	11.05	14.60	18.75	27.50	37.05	57.60	69.30
8	4.35	5.80	7.50	10.55	11.50	15.10	19.40	28.40	38.20	58.90	70.95
$8\frac{1}{2}$	4.50	6.00	7.80	11.00	11.95	15.60	20.05	29.30	39.35	60.20	72.60
9	4.70	6.25	8.15	11.45	12.40	16.10	20.70	30.20	40.50	61.50	74.25
$9\frac{1}{2}$	4.85	6.45	8.45	11.95	12.85	16.60	21.35	31.10	41.65	62.80	75.90
10	5.05	6.70	8.80	12.35	13.30	17.10	22.00	32.00	42.80	64.10	77.55
$10\frac{1}{2}$	5.40	7.15	9.50	13.20	14.70	18.10	23.30	33.80	45.10	66.70	80.85
11	5.40	7.15	9.50	13.20	14.70	18.10	23.30	33.80	45.10	66.70	80.85
$11\frac{1}{2}$	5.75	7.60	10.20	14.05	15.60	19.10	24.60	35.60	47.40	67.30	84.15
12	5.75	7.60	10.20	14.05	15.60	19.10	24.60	35.60	47.40	69.30	84.15
13	6.30	8.25	11.30	15.35	16.50	20.10	25.90	37.40	49.70	71.90	87.45
14	6.60	8.70	11.95	16.20	17.40	21.10	27.20	39.20	52.00	74.50	90.75
15	6.95	9.15	12.60	17.15	18.30	22.10	28.50	41.00	54.30	77.10	94.05
16	7.25	9.60	13.25	18.05	19.20	23.10	29.80	42.80	56.60	79.70	97.35
17	7.60	10.05	13.90	18.95	20.10	24.10	31.10	44.60	58.90	82.30	100.65
18	7.90	10.50	14.55	19.85	21.00	25.10	32.40	46.40	61.20	84.90	103.95
19	8.25	10.95	15.20	20.75	21.90	26.10	33.70	48.20	63.50	87.50	107.25
20	8.60	11.40	15.85	21.65	22.80	27.10	35.00	50.00	65.80	90.10	110.55
21	..	..	..	..	23.70	28.10	36.30	51.80	68.10	92.70	113.85
22	..	..	..	..	24.60	29.10	37.60	53.60	70.40	95.30	117.15
23	..	..	..	..	25.50	30.10	38.90	55.40	72.70	97.90	120.45
24	..	..	..	..	26.40	31.10	40.20	57.20	75.00	100.50	123.75
25	..	..	..	..	27.30	32.10	41.50	59.00	77.30	103.10	127.05
26	..	..	..	..	..	..	42.80	60.80	79.60	105.70	130.35
27	..	..	..	..	..	..	44.10	62.60	81.90	108.30	133.65
28	..	..	..	..	..	..	45.40	64.40	84.20	110.90	136.95
29	..	..	..	..	..	..	46.70	66.20	86.50	113.50	140.25
30	..	..	..	..	..	..	48.00	68.00	88.80	116.10	143.55
Add per inch	\$0.35	\$0.45	\$0.65	\$0.90	\$0.90	\$1.00	\$1.30	\$1.80	\$2.30	\$2.60	\$3.30

Bolts with Hexagon Heads or Hexagon Nuts, 10 per cent. extra.

If both Hexagon Heads and Hexagon Nuts, 20 per cent. extra.

Cast Iron Flanged Fittings - Dimension Chart

Straight Sizes

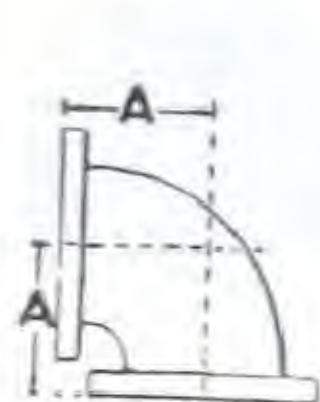


Fig. G-223

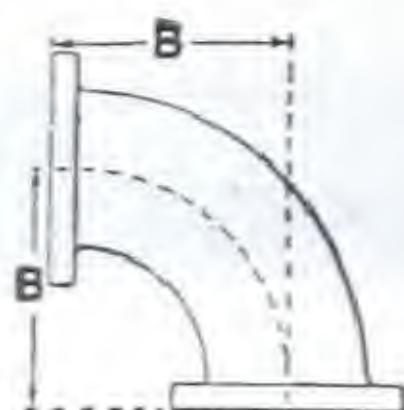


Fig. G-224

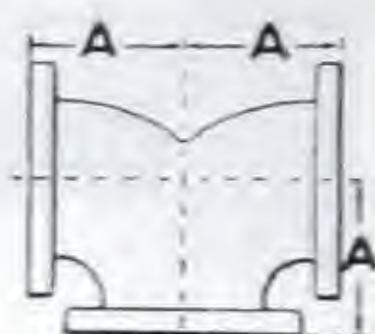


Fig. G-225

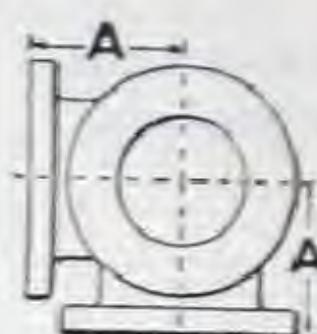


Fig. G-226

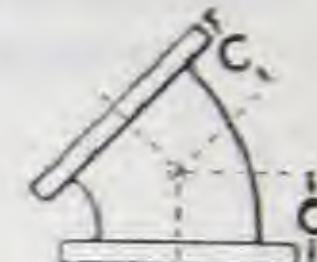


Fig. G-227

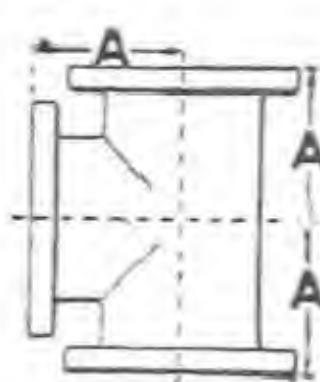


Fig. G-228

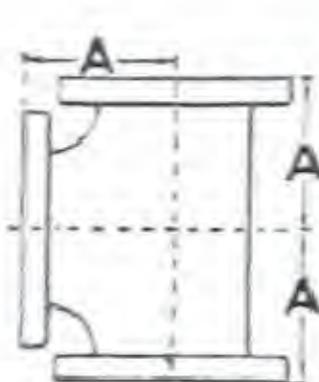


Fig. G-229

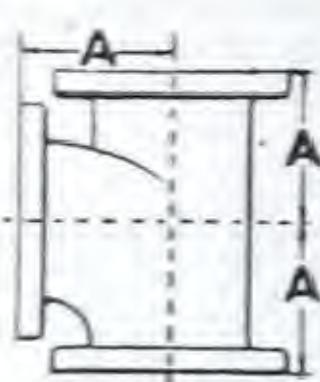


Fig. G-230

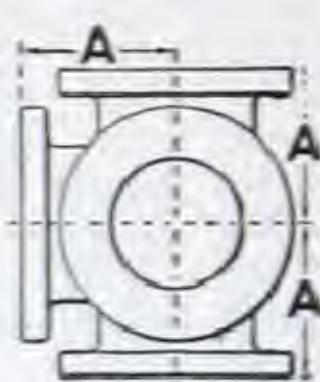


Fig. G-231

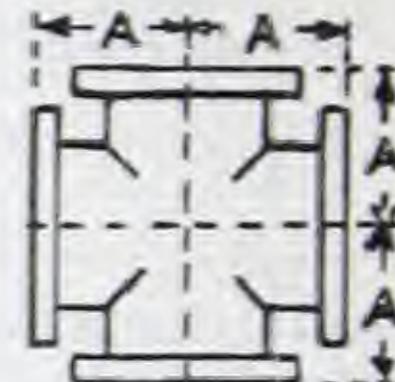


Fig. G-232

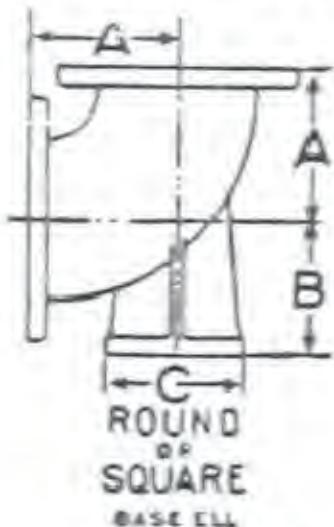


Fig. G-233

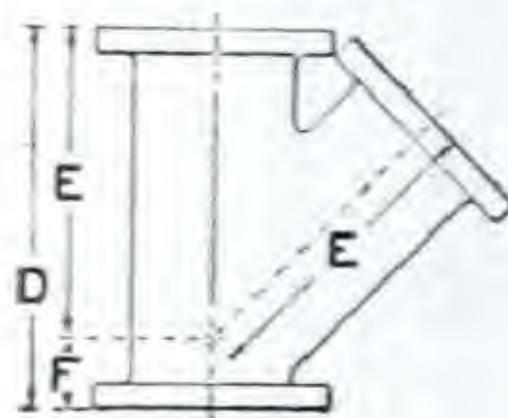


Fig. G-234

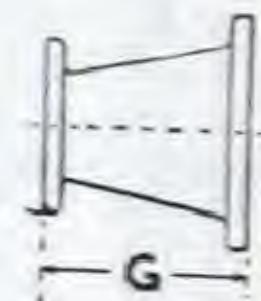


Fig. G-235

Reducing Sizes for 18," 20" and 24" (See page 102)

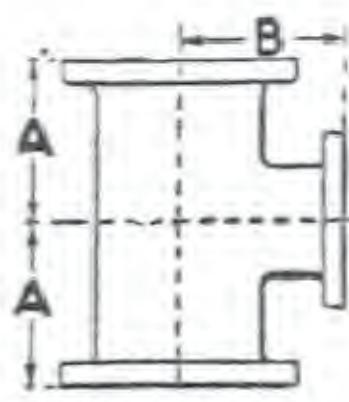


Fig. G-236

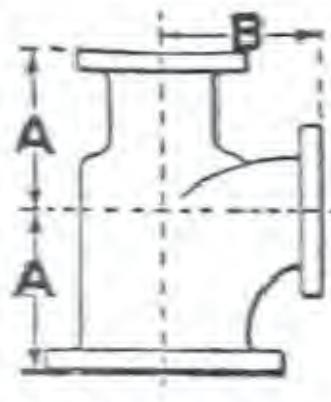


Fig. G-237

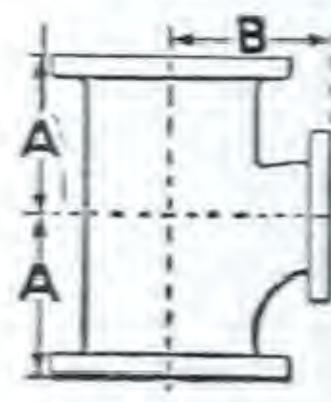


Fig. G-238

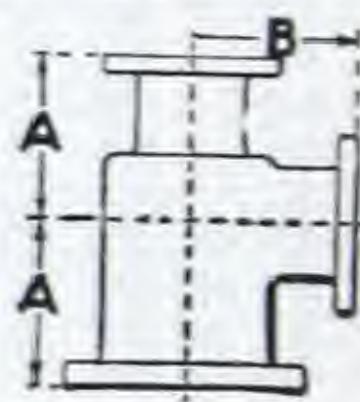


Fig. G-239

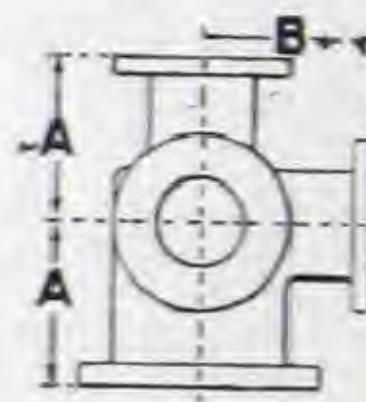


Fig. G-240

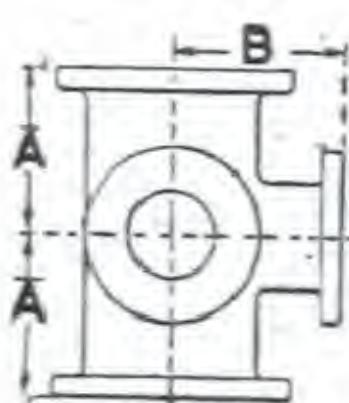


Fig. G-241

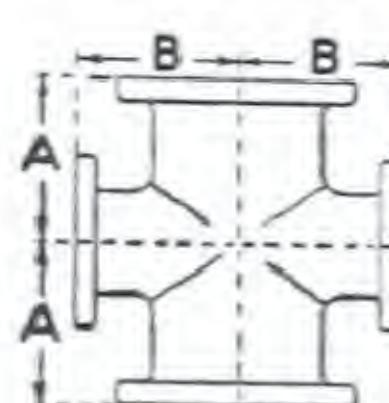


Fig. G-242

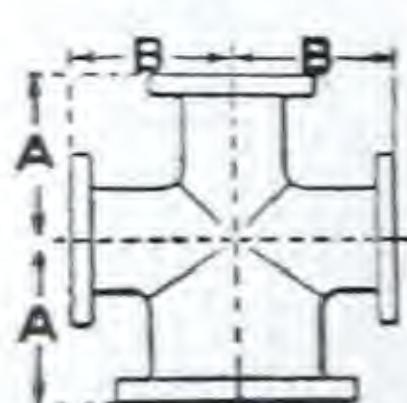


Fig. G-243

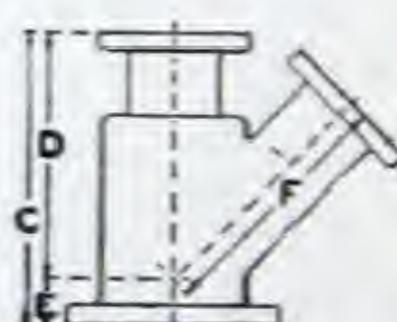


Fig. G-244

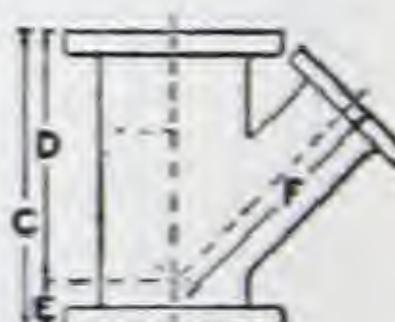


Fig. G-245

All Reducing Sizes 1-16" Inclusive Have Same Centre To Face Dimensions As Straight Size Fittings.

THOMAS ROBERTSON & COMPANY, LIMITED

Dimensions of Cast Iron Flanged Fittings

STANDARD—For 125 lbs. Working Pressure

Size.....	inches		1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	4	5	6
Face to Face, Tees and Crosses.....		AA	7	7 $\frac{1}{2}$	8	9	10	11	12	13	15	16
Centre to Face Elbows Tees and Crosses.....		A	3 $\frac{1}{2}$	3 $\frac{3}{4}$	4	4 $\frac{1}{2}$	5	5 $\frac{1}{2}$	6	6 $\frac{1}{2}$	7 $\frac{1}{2}$	8
Centre to Face 45° Elbows.....		C	1 $\frac{1}{4}$	2	2 $\frac{1}{4}$	2 $\frac{1}{2}$	3	3	3 $\frac{1}{2}$	4	4 $\frac{1}{2}$	5
Diameter of Base, of Base Elbows.....		C	4	4	4	4 $\frac{1}{2}$	4 $\frac{1}{2}$	5	5	6	7	7
Thickness of Base Flange of Base Elbows.....			$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{9}{16}$	$\frac{9}{16}$	$\frac{11}{16}$	$\frac{11}{16}$	$\frac{11}{16}$
Centre to Base of Base Elbows.....		B	...	4 $\frac{1}{2}$	4 $\frac{3}{4}$	5	5 $\frac{1}{2}$	5 $\frac{3}{4}$	6 $\frac{1}{4}$	6 $\frac{3}{4}$	7	7 $\frac{1}{2}$
Centre to Face Long Radius Elbows.....		B	5	5 $\frac{1}{2}$	6	6 $\frac{1}{2}$	7	7 $\frac{1}{4}$	8 $\frac{1}{2}$	9	10 $\frac{1}{4}$	11 $\frac{1}{2}$
Radius of Long Radius Elbows.....			5 $\frac{1}{4}$	5 $\frac{5}{8}$	6 $\frac{1}{4}$	6 $\frac{5}{8}$	7 $\frac{3}{8}$	8 $\frac{1}{2}$	9 $\frac{5}{8}$	9 $\frac{5}{8}$
Face to Face of Y Branches.....		D	7 $\frac{1}{2}$	8	9	10 $\frac{1}{2}$	12	13	14 $\frac{1}{2}$	15	17	18
Long Centre to Face of ".....		E	5 $\frac{3}{4}$	6 $\frac{1}{4}$	7	8	9 $\frac{1}{2}$	10	11 $\frac{1}{2}$	12	13 $\frac{1}{2}$	14 $\frac{1}{2}$
Short Centre to Face of ".....		F	1 $\frac{1}{4}$	1 $\frac{1}{4}$	2	2 $\frac{1}{2}$	2 $\frac{1}{2}$	3	3	3	3 $\frac{1}{2}$	3 $\frac{1}{2}$
Face to Face of Reducers.....		G	...	...	...	...	...	6	6 $\frac{1}{2}$	7	8	9

Size.....	inches		8	10	12	14	16	18	20	24
Face to Face Tees and Crosses.....		AA	18	22	24	28	30	33	36	44
Centre to Face Elbows Tees and Crosses.....		A	9	11	12	14	15	16 $\frac{1}{2}$	18	22
Centre to Face 45° Elbows.....		C	5 $\frac{1}{2}$	6 $\frac{1}{2}$	7 $\frac{1}{2}$	7 $\frac{1}{2}$	8	8 $\frac{1}{2}$	9 $\frac{1}{2}$	11
Diameter of Base of Base Elbows.....		C	9	9	11	11	11	13 $\frac{1}{2}$	13 $\frac{1}{2}$	13 $\frac{1}{2}$
Thickness of Base Flange of Base Elbows.....			$\frac{15}{16}$	$\frac{15}{16}$	1	1	1	1 $\frac{1}{8}$	1 $\frac{1}{8}$	1 $\frac{1}{8}$
Centre to Base of Base Elbows.....		B	8 $\frac{1}{4}$	10	10 $\frac{1}{2}$	13 $\frac{1}{2}$	14 $\frac{3}{4}$	15	16 $\frac{1}{4}$	18 $\frac{1}{4}$
Centre to Face Long Radius Elbows.....		B	14	16 $\frac{1}{2}$	19	21 $\frac{1}{2}$	24	26	29	34
Radius of Long Radius Elbows.....			12	14 $\frac{1}{8}$	16 $\frac{1}{2}$	18 $\frac{7}{8}$	21 $\frac{1}{4}$	23	26	30 $\frac{3}{4}$
Face to Face of Y Branches.....		D	22	25 $\frac{1}{2}$	30	33	33 $\frac{1}{2}$	39	43	49 $\frac{1}{2}$
Long Centre to Face of ".....		E	17 $\frac{1}{2}$	20 $\frac{1}{2}$	24 $\frac{1}{2}$	27	30	32	35	40 $\frac{1}{2}$
Short Centre to Face of ".....		F	4 $\frac{1}{2}$	5	5 $\frac{1}{2}$	6	6 $\frac{1}{2}$	7	8	9
Face to Face or Reducers.....		G	11	12	14	16	18	19	20	24

EXTRA HEAVY—For 250 lbs. Working Pressure

Size.....	inches		1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	4	5	6
Face to Face, Tees and Crosses.....		AA	8	8 $\frac{1}{2}$	9	10	11	12	13	14	16	17
Centre to Face, Elbows Tees and Crosses.....		A	4 $\frac{1}{2}$	4 $\frac{1}{2}$	5	5 $\frac{1}{2}$	6	6 $\frac{1}{2}$	7	8	8 $\frac{1}{2}$	
Centre to Face 45° Elbows.....		C	2 $\frac{1}{2}$	2 $\frac{3}{4}$	3	3 $\frac{1}{2}$	3 $\frac{1}{2}$	4	4 $\frac{1}{2}$	5	5 $\frac{1}{2}$	
Diameter of Base of Base Elbows.....		C	...	4 $\frac{1}{2}$	4 $\frac{1}{2}$	5	5	6	6	6 $\frac{1}{2}$	7 $\frac{1}{2}$	7 $\frac{1}{2}$
Thickness of Base Flange of Base Elbows.....			...	$\frac{11}{16}$	$\frac{11}{16}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{13}{16}$	$\frac{13}{16}$	1	1	1
Centre to Base of Base Elbows.....		B	...	4 $\frac{1}{2}$	5	5 $\frac{1}{2}$	6	6 $\frac{1}{4}$	6 $\frac{3}{4}$	7	7 $\frac{1}{2}$	8
Centre to Face Long Radius Elbows.....		B	5	5 $\frac{1}{2}$	6	6 $\frac{1}{2}$	7	7 $\frac{1}{4}$	8 $\frac{1}{2}$	9	10 $\frac{1}{4}$	11 $\frac{1}{2}$
Radius of Long Radius Elbows.....			5 $\frac{1}{4}$	5 $\frac{5}{8}$	6 $\frac{1}{4}$	6 $\frac{5}{8}$	6 $\frac{1}{4}$	7 $\frac{3}{8}$	8 $\frac{1}{2}$	9 $\frac{5}{8}$
Face to Face of Y Branches.....		D	8 $\frac{1}{2}$	9 $\frac{1}{2}$	11	11 $\frac{1}{2}$	13	14	15 $\frac{1}{2}$	16 $\frac{1}{2}$	18 $\frac{1}{2}$	21 $\frac{1}{2}$
Long, Centre to Face of ".....		E	6 $\frac{1}{2}$	7 $\frac{1}{4}$	8 $\frac{1}{2}$	9	10 $\frac{1}{2}$	11	12 $\frac{1}{2}$	13 $\frac{1}{2}$	15	17 $\frac{1}{2}$
Short, Centre to Face of ".....		F	2	2 $\frac{1}{4}$	2 $\frac{1}{2}$	2 $\frac{1}{2}$	2 $\frac{1}{2}$	3	3	3	3 $\frac{1}{2}$	4
Face to Face of Reducers.....		G	...	...	...	...	...	6	6 $\frac{1}{2}$	7	8	9

Size.....	inches		8	10	12	14	16	18	20	24
Face to Face, Tees and Crosses.....		AA	20	23	26	30	33	36	39	45
Centre to Face, Elbows Tees and Crosses.....		A	10	11 $\frac{1}{2}$	13	15	16 $\frac{1}{2}$	18	19 $\frac{1}{2}$	22 $\frac{1}{2}$
Centre to Face 45° Elbows.....		C	6	7	8	8 $\frac{1}{2}$	9 $\frac{1}{2}$	10	10 $\frac{1}{2}$	12
Diameter of Base of Base Elbows.....		C	10	10	12 $\frac{1}{2}$	12 $\frac{1}{2}$	12 $\frac{1}{2}$	15	15	17 $\frac{1}{2}$
Thickness of Base Flange of Base Elbows.....			1 $\frac{1}{4}$	1 $\frac{1}{4}$	1 $\frac{7}{16}$	1 $\frac{7}{16}$	1 $\frac{7}{16}$	1 $\frac{5}{8}$	1 $\frac{5}{8}$	1 $\frac{5}{8}$
Centre to Base of Base Elbows.....		B	9 $\frac{1}{4}$	10 $\frac{1}{2}$	11	14	15 $\frac{1}{4}$	15 $\frac{1}{4}$	16 $\frac{1}{4}$	18 $\frac{1}{4}$
Centre to Face of Long Radius Elbows.....		B	14	16 $\frac{1}{2}$	19	21 $\frac{1}{2}$	24	26 $\frac{1}{2}$	29	34
Radius of Long Radius Elbows.....			12	14 $\frac{1}{8}$	16 $\frac{1}{2}$	18 $\frac{7}{8}$	21 $\frac{1}{4}$	23 $\frac{5}{8}$	26	30 $\frac{3}{4}$
Face to Face of Y Branches.....		D	25 $\frac{1}{2}$	29 $\frac{1}{2}$	33 $\frac{1}{2}$	37 $\frac{1}{2}$	42	45 $\frac{1}{2}$	49	57 $\frac{1}{2}$
Long, Centre to Face of ".....		E	20 $\frac{1}{2}$	24	27 $\frac{1}{2}$	31	34 $\frac{1}{2}$			

THOMAS ROBERTSON & COMPANY, LIMITED

Dimensions of C. I. Flanged Fittings (continued)

REDUCING SIZES WHICH ARE MADE FROM SHORT BODY PATTERNS

For Dimension Chart see page 100

		STANDARD			EXTRA HEAVY			
		18	20	24	.....	18	20	24
Elbows, Tees and Crosses								
Size of Outlet and smaller		12	14	16	.....	12	14	16
Face to Face of run	AA	26	28	30	.....	AA	28	31
Centre to Face of run	A	13	14	15	.....	A	14	15 $\frac{1}{2}$
Centre to Face of Outlet	B	15 $\frac{1}{2}$	17	19	.....	B	17	18 $\frac{1}{2}$
Y Branches								
Size of branch and smaller		9	10	12	.....	9	10	12
Face to Face of run	C	26	28	32	.....	C	34	37
Centre to Face of run	D	25	27	31 $\frac{1}{2}$	.....	D	31	34
Centre to Face of run	E	1	1	1 $\frac{1}{2}$	.....	E	3	3*
Centre to Face of Branch	F	27 $\frac{1}{2}$	29 $\frac{1}{2}$	34 $\frac{1}{2}$	.....	F	32 $\frac{1}{2}$	36

Regular Patterns are used when branches or outlets are larger than given in this table, also when Fittings reduce on the run only.

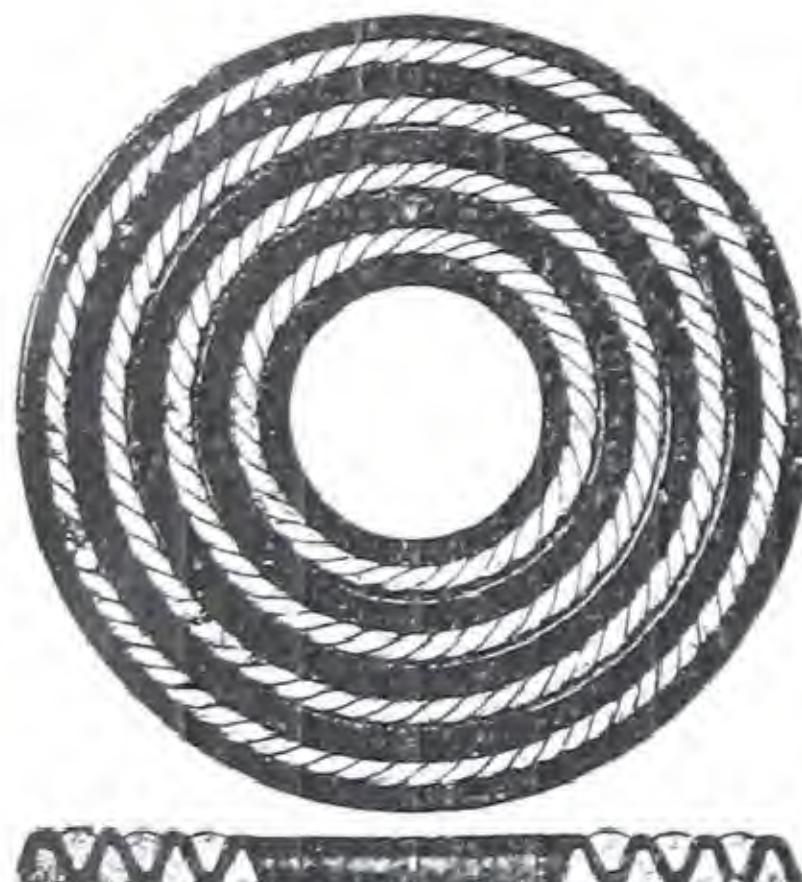


Fig. G-246

Corrugated Copper Gaskets

With Asbestos Cord Filled Corrugations

Pipe Size, inches ..	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	4	5
For Standard, .. each	.16	.20	.24	.32	.40	.48	.56	.64	.80
" Extra Heavy "	.18	.27	.30	.36	.45	.54	.63	.72	.90

Pipe Size, inches ..	6	8	10	12	14	16	18	20	24
For Standard, .. each	.96	1.28	1.60	1.92	2.24	2.56	2.88	3.20	3.84
" Extra Heavy "	1.08	1.44	1.80	2.16	2.52	2.88	3.24	3.60	4.32

"Durabla" Gaskets

Guaranteed for Air, Water, Steam, Ammonia, Gasoline, Oil & Acids

Pipe Size inches	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	4	5
For Standard, each	.08	.10	.12	.17	.21	.24	.38	.40	.42
" Extra Heavy "	.08	.12	.18	.25	.27	.36	.40	.42	.57

Pipe Size, inches	6	8	10	12	14	16	18	20	24
For Standard, each	.54	.75	.99	1.62	1.68	1.98	2.04	2.42	3.18
" Extra Heavy "	.70	1.14	1.32	1.68	2.74	3.16	3.68	4.12	5.52

THOMAS ROBERTSON & COMPANY, LIMITED

Cast Steel Double Extra Heavy Flanged Fittings, for Extreme Pressures & Temperatures

Classification of "SIGMA" Steel Flanged Fittings in Series

According to Working Pressures and Temperatures

Series No.	150	300 Working pressure in pounds	400	600	900	1350
At 500° Fahr. } for Steam, Hot.....	150					
At 750° Fahr. } Oil & Vapor.....	..	300	400	600	900	1350
At 450° Fahr. for Boiler Feed.....	200	400	500	720	1080	1625
At 750° Fahr. }	125	..	..	..	..	..
At 900° Fahr. } for Hot Oil & Vapor.....	..	275	375	550	825	1250
At 1000° Fahr. } .....	..	225	325	475	725	1100
Non Shock Working Pressure, Cold Air, Oil, Water & Gas }	300	500	750	1000	1500	2250
Hydrostatic Pressure Test.....	450	750	1000	1500	2000	3000

Elbows 90° and 45° and Taper Reducers

Size,.....inches	2		2½		3		4	
Faced Only or Faced & Drilled.	Faced	F. & D.	Faced	F. & D.	Faced	F. & D.	Faced	F. & D.
Series 150 and 300.....	\$11.00	13.00	13.00	15.00	14.00	17.00	19.00	22.00
" 400 .....	..	..	..	..	..	..	27.25	31.00
" 600	16.25	19.00	19.00	22.00	21.50	25.00	30.00	34.00
" 900 .....	..	..	..	..	32.00	35.75	49.00	54.00

Size .....,inches	5		6		8		10	
Faced Only or Faced & Drilled..	Faced	F. & D.	Faced	F. & D.	Faced	F. & D.	Faced	F. & D.
Series 150 and 300.....	\$24.00	27.00	29.00	33.00	43.00	48.00	61.00	67.00
" 400	35.50	40.00	43.00	48.00	64.50	72.00	91.00	100.00
" 600	43.00	47.75	55.00	61.00	80.00	90.00	128.00	140.00
" 900	71.00	77.50	90.00	100.00	160.00	177.00	240.00	263.00

All Drilled Flanges are
also Spot Faced

List Prices continued on next page

Prices for larger sizes on application.

THOMAS ROBERTSON & COMPANY, LIMITED

Cast Steel Double Extra Heavy Flanged Fittings

(continued)

Reducing Elbows

Size.....	.....inches	2	2½	3	4
Faced Only or Faced & Drilled		Faced	F. & D.	Faced	F. & D.
Series 150 and 300.....		\$14.00	16.00	16.00	18.00
" 400

Size.....	.....inches	5	6	8	10
Faced only or Faced & Drilled		Faced	F. & D.	Faced	F. & D.
Series 150 and 300.....		\$29.00	32.00	35.00	39.00
" 400		42.50	47.00	52.00	57.00

Prices for Reducing Elbows (Series 600 and 900) quoted on application.

Tees

Size.....	.....inches	2	2½	3	4
Faced only or Faced & Drilled		Faced	F. & D.	Faced	F. & D.
Series 150 and 300.....		\$15.00	18.00	17.00	20.00
" 400
" 600		24.00	28.00	28.00	32.50
" 900

Size.....	.....inches	5	6	8	10
Faced only or Faced & Drilled		Faced	F. & D.	Faced	F. & D.
Series 150 and 300.....		\$33.00	37.00	40.00	46.00
" 400		50.00	57.00	60.00	68.00
" 600		65.00	72.00	82.00	91.00
" 900		112.00	122.00	140.00	155.00

Reducing Tees

Size.....	.....inches	2	2½	3	4
Faced only or Faced & Drilled		Faced	F. & D.	Faced	F. & D.
Series 150 and 300.....		19.50	22.50
" 400		27.50	31.50	32.00	36.50
" 600
" 900

Size.....	.....inches	5	6	8	10
Faced only or Faced & Drilled		Faced	F. & D.	Faced	F. & D.
Series 150 and 300.....		\$38.00	42.00	46.00	52.00
" 400		58.00	65.00	69.00	77.00
" 600		75.00	82.25	95.00	104.00
" 900		129.00	139.00	161.00	176.00

THOMAS ROBERTSON & COMPANY, LIMITED

Cast Steel Double Extra Heavy Flanged Fittings

(continued)

Crosses and Y Branches

Size..... inches	2		2½		3		4	
Faced Only or Faced & Drilled	Faced	F. & D.	Faced	F. & D.	Faced	F. & D.	Faced	F. & D.
Series 150 and 300	21.00	25.00	25.00	29.00	27.00	33.00	36.00	42.00
" 400							55.00	63.00
" 600	33.50	39.00	39.00	45.00	44.00	51.00	63.00	71.00
" 900							71.00	78.50
							107.00	117.00

Size..... inches	5	6	8	10
Faced Only or Faced Drilled	Faced	F. & D.	Faced	F. & D.
Series 150 and 300.....	45.00	51.00	55.00	63.00
" 400	70.00	79.00	84.00	94.00
" 600	91.00	100.50	114.00	126.00
" 900	155.00	168.00	195.00	215.00
			347.00	381.00
				528.00
				574.00

Crosses and Y Branches—Reducing*

Size..... inches	2		2½		3		4	
Faced Only or Faced & Drilled	Faced	F. & D.	Faced	F. & D.	Faced	F. & D.	Faced	F. & D.
Series 150 and 300.....	24.25	28.25	29.00	33.00	31.00	37.00	41.50	47.50
" 400							64.00	71.50
" 600	38.50	44.00	45.00	51.00	51.00	58.00	72.50	80.50
" 900					81.50	89.00	123.00	133.00

Size..... inches..	5	6	8	10
Faced Only or Faced & Drilled	Faced	F. & D.	Faced	F. & D.
Series 150 and 300.....	52.00	58.00	63.50	71.50
" 400	81.00	90.00	97.00	107.00
" 600	105.00	114.50	131.00	143.00
" 900	178.00	191.00	224.00	244.00
			400.00	434.00
			608.00	654.00

Prices for larger sizes on application.

All Drilled Flanges are also Spot Faced

*Reducing Y Branches are supplied in sizes 2½" and larger in the "Series 150", and in sizes 4" and larger in the "Series 300-400-600-900".

"Series 1350" will be quoted on application. All Fittings are drilled to U.S.A. Standard.

For "SIGMA" Steel Valves see page 138. A special booklet describing Cast Steel Fittings & Flanges & Valves, will be mailed on application.

THOMAS ROBERTSON & COMPANY, LIMITED

Standard Brass Fittings



Fig. G-247

Iron Pipe Size

For 125 lbs. Steam Working Pressure

ROUGH or FINISHED or FINISHED & NICKEL-PLATED

90° Elbows - Right

Size,	inches	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$\frac{1}{2}$	$\frac{3}{8}$	$\frac{1}{4}$	1
Rough	each	.12	.15	.20	.28	.40	.63			
Finished	"	.30	.35	.45	.56	.75	1.10			
Nickel-plated	"	.36	.42	.53	.65	.87	1.25			
Size,	inches	$1\frac{1}{8}$	$1\frac{1}{4}$	2	$2\frac{1}{8}$	3	$3\frac{1}{8}$	4	5	6
Rough	each	.90	1.20	2.00	3.50	6.00	8.00	10.00	25.00	40.00
Finished	"	1.55	2.00	3.00	5.50	9.00	14.00	17.50	..	..
Nickel-plated	"	1.75	2.25	3.35	6.15	10.00	16.00	20.00	..	..

For Right & Left Elbows, add 25% to above lists.

Reducing Elbows

Size,	inches	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{8}$	$1\frac{1}{4}$	2	$2\frac{1}{8}$	3	$3\frac{1}{8}$	4	5	6
Rough	each	.19	.25	.35	.50	.80	1.10	1.50	2.50	4.25	7.50	10.00	12.50	30.00	50.00
Finished	"	.44	.55	.70	.95	1.40	1.90	2.50	3.75	6.75	11.25	17.50	22.00	..	..
Nickel-plated	"	.52	.65	.82	1.10	1.60	2.15	2.85	4.15	7.60	12.50	20.00	25.00	..	..



Fig. G-248

45° Elbows - Right

Size,	inches	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{8}$	$1\frac{1}{4}$	2	$2\frac{1}{8}$	3	$3\frac{1}{8}$	4	5	6
Rough	each	.16	.20	.25	.31	.40	.63								
Finished	"	.38	.45	.55	.66	.85	1.23								
Nickel-plated	"	.45	.53	.65	.78	1.00	1.43								

For Right & Left Elbows, add 25% to above lists

90° Street Elbows

Size,	inches	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{8}$	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Rough	each	.25	.27	.33	.48	.63	.85	1.50	2.00	3.25
Finished	"	.47	.52	.63	.83	1.08	1.45	2.30	3.00	4.50
Nickel-plated	"	.54	.60	.73	.95	1.23	1.65	2.55	3.35	4.90

45° Street Elbows can be supplied, at special prices.

Reducing Fittings, reducing more than 2 sizes, supplied at 25% extra on Reducing Lists.



Fig. G-249

Standard Brass Fittings

Iron Pipe Size

For 125 lbs. Steam Working Pressure

ROUGH or FINISHED or FINISHED & NICKEL-PLATED



Fig. G-250

Drop Elbows—Inside Thread

Size, inches	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Rough each	.35	.45	.65	1.05	1.50	2.00	3.40
Finished "	.85	1.05	1.40	2.00	2.80	3.60	5.40
Nickel-plated "	1.00	1.25	1.65	2.30	3.20	4.10	6.00

Side Outlet Elbows (Not illustrated)

Size, inches	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Rough each	.60	.85	1.20	1.90	2.75	3.60	6.00	10.50	18.00
Finished "	1.35	1.70	2.25	3.30	4.70	6.00	9.00	16.50	27.00
Nickel-plated "	1.60	2.00	2.60	3.75	5.35	6.80	10.00	18.50	30.00

Tees

Size, inches	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1
Rough each	.17	.21	.28	.40	.55	.85
Finished "	.42	.49	.63	.80	1.05	1.50
Nickel-plated "	.50	.58	.75	.93	1.22	1.70

Size, inches	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	5	6
Rough each	1.25	1.70	2.80	5.00	8.50	11.00	14.00	35.00	52.00
Finished "	2.15	2.80	4.20	7.75	12.75	19.50	24.50	..	..
Nickel-plated "	2.45	3.15	4.65	8.65	14.00	22.30	28.00	..	..

Reducing Tees

Size, inches	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Rough each	.25	.35	.50	.70	1.05	1.55	2.10	3.50
Finished "	.60	.77	1.00	1.30	1.85	2.65	3.50	5.25
Nickel-plated "	.72	.90	1.15	1.50	2.10	3.00	3.95	5.85

Drop Tees—Inside Thread

Size, inches	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Rough each	.43	.57	.80	1.25	1.85	2.50	4.20
Finished "	1.13	1.37	1.80	2.55	3.65	4.70	7.00
Nickel-plated "	1.33	1.62	2.15	2.95	4.25	5.45	7.90



Fig. G-252

Reducing Fittings, reducing more than 2 sizes, supplied at 25% extra on Reducing Lists.

THOMAS ROBERTSON & COMPANY, LIMITED

Standard Brass Fittings

Iron Pipe Size

For 125 lbs. Steam Working Pressure

ROUGH or FINISHED or FINISHED & NICKEL-PLATED

Crosses



Fig. G-253

Size, inches	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$
Rough each	.25	.30	.40	.55	.80	1.25	1.80	2.40
Finished "	.60	.70	.90	1.10	1.50	2.20	3.10	4.00
Nickel-plated "	.72	.84	1.05	1.30	1.75	2.50	3.50	4.50

Size, inches	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	5	6
Rough each	4.00	7.00	12.00	16.00	20.00	50.00	80.00
Finished "	6.00	11.00	18.00	28.00	35.00	..	..
Nickel-plated "	6.70	12.30	20.00	32.00	40.00	..	..

Reducing Crosses

Size inches	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	5	6
Rough each	.38	.50	.70	1.00	1.55	2.25	3.00	5.00	8.75	15.00	20.00	25.00	63.00	100.00
Finished "	.88	1.10	1.40	1.85	2.75	3.85	5.00	7.50	13.75	22.50	35.00	44.00	..	..
Nickel-plated "	1.05	1.30	1.65	2.15	3.15	4.35	5.70	8.30	15.40	25.00	40.00	50.00	..	..

Crosses, reducing more than two sizes, are supplied at 25% extra on above list.

Return Bends - Close



Fig. G-254—Close

Size, inches . . .	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Rough each . . .	.70	1.00	1.25	1.80	2.50	4.25
Finished "	1.55	2.05	2.65	3.75	4.90	7.25
Nickel-plated "	1.85	2.40	3.10	4.40	5.70	8.25

Right & Left

Size, inches . . .	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Rough each . . .	.88	1.25	1.56	2.25	3.15	5.31

Return Bends - Open



Fig. G-255—Open

Size, inches	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Rough each . . . .	.80	1.10	1.40	2.15	3.00	4.75	8.25	11.00
Finished "	1.65	2.15	2.80	4.10	5.40	7.75	14.25	20.00
Nickel-Plated "	1.95	2.50	3.25	4.75	6.20	8.75	16.25	23.00

Right & Left

Size, inches	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Rough each	1.00	1.38	1.75	2.70	3.75	5.95	10.32	13.75

Standard Brass Fittings

Iron Pipe Size.

For 125 lbs. Steam Working Pressure

ROUGH or FINISHED or FINISHED & NICKEL-PLATED



Fig. G-256

Y Branches

Size, inches	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	4
Rough each	.60	.75	1.10	1.65	2.50	3.30	5.50	9.50	16.00	26.00
Finished "	1.35	1.60	2.15	3.05	4.45	5.70	8.50	15.50	25.00	41.00
Nickel-plated "	1.60	1.90	2.50	3.50	5.10	6.50	9.50	17.50	28.00	46.00



Fig. G-257

Couplings (Right Hand)

Size, inches	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$
Rough each	.10	.13	.17	.25	.37	.55	.80	1.00
Finished "	.24	.28	.36	.46	.63	.90	1.30	1.60
Nickel-plated "	.29	.33	.42	.53	.72	1.00	1.45	1.80

Size, inches	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	5	6
Rough each	1.60	2.50	3.50	5.25	7.00	15.00	23.00
Finished "	2.35	4.00	5.75	9.75	12.50	..	..
Nickel-plated "	2.60	4.50	6.50	11.25	14.25	..	..

Couplings (Right & Left)

Size, inches	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Rough each	.13	.17	.22	.30	.45	.70	1.00	1.30	2.00	3.10	4.50
Finished "	.31	.37	.47	.58	.80	1.15	1.65	2.10	3.00	5.10	7.50
Nickel-plated "	.37	.44	.55	.67	.92	1.30	1.85	2.35	3.35	5.75	8.50

Reducing Couplings



Fig. G-258

Size, inches	$\frac{1}{4}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{1}{4}$
Rough each	.15	.20	.28	.40	.60	.90	1.10
Finished "	.35	.45	.56	.75	1.05	1.55	1.90
Nickel-plated "	.42	.52	.65	.87	1.20	1.75	2.15

Size, inches	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	5	6
Rough each	1.75	2.75	4.00	6.00	8.00	19.00	29.00
Finished "	2.75	4.75	7.00	12.00	15.50	..	..
Nickel-plated "	3.10	5.40	8.00	14.00	18.00	..	..

Couplings, reducing more than two sizes, are supplied at 25% extra on above list.

THOMAS ROBERTSON & COMPANY, LIMITED

Standard Brass Fittings

Iron Pipe Size.

For 125 lbs. Steam Working Pressure

ROUGH or FINISHED or FINISHED & NICKEL-PLATED

Lock Nuts



Fig. G-259

Size, inches	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$
Rough each	.10	.10	.12	.15	.20	.28	.40	.55
Finished "	.24	.25	.32	.40	.50	.65	.85	1.10
Nickel-plated "	.29	.30	.39	.48	.60	.77	1.00	1.30

Size, inches	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	5	6
Rough each	.80	1.75	2.75	4.00	5.00	8.00	12.00
Finished "	1.60	3.25	4.75	6.50	8.00	..	..
Nickel-plated "	1.85	3.75	5.40	7.35	9.00	..	..

Caps



Fig. G-260

Size, inches	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$
Rough each	.10	.13	.16	.20	.30	.42	.60	.80
Finished "	.20	.25	.31	.40	.55	.77	1.10	1.50
Nickel-plated "	.23	.29	.36	.47	.63	.89	1.25	1.75

Size, inches	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	5	6
Rough each	1.25	2.50	3.50	5.50	7.00	15.00	23.00
Finished "	2.25	4.00	5.50	8.00	10.00	..	..
Nickel-plated "	2.60	4.50	6.15	8.85	11.00	..	..

Plugs — Regular



Fig. G-261

Size, inches	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$
Rough each	.08	.10	.12	.15	.20	.30	.45	.60
Finished "	.23	.30	.37	.43	.55	.75	1.00	1.30
Nickel-plated "	.28	.37	.45	.52	.67	.90	1.20	1.55

Size, inches	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	5	6
Rough each	.95	1.50	2.25	3.75	5.00	8.00	12.00
Finished "	1.95	3.00	4.25	6.25	8.00	..	..
Nickel-plated "	2.30	3.50	4.90	7.10	9.00	..	..

Solid Plugs

Size inches	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	5	6
Rough each	.18	.22	.30	.45	.80	1.20	1.90	3.00	4.50	7.50	10.00	15.00	23.00
Finished "	.43	.50	.65	.90	1.35	1.90	2.90	4.50	6.50	10.00	13.00	..	..
Nickel-plated "	.51	.59	.77	1.05	1.55	2.15	3.25	5.00	7.15	10.85	14.00	..	..



Fig. G-262

Countersunk Plugs

Size inches	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	4
Rough each	.22	.30	.45	.65	.90	1.40	2.25	3.40	7.50
Finished "	.42	.55	.80	1.15	1.55	2.25	..	..	..
Nickel-plated "	.49	.63	.92	1.30	1.75	2.55	..	..	..

THOMAS ROBERTSON & COMPANY, LIMITED

Standard Brass Fittings

Iron Pipe Size.

For 125 lbs. Steam Working Pressure

ROUGH or FINISHED or FINISHED & NICKEL-PLATED

Bushings



Fig. G-263

Size, inches	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$
Rough each	.10	.12	.15	.22	.35	.50	.70
Finished "	.22	.27	.35	.47	.70	1.00	1.40
Nickel-plated "	.26	.32	.42	.55	.82	1.15	1.65

Size, inches	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	5	6
Rough each	1.00	1.50	2.50	3.75	5.00	12.00	18.00
Finished "	2.00	3.00	4.50	6.25	8.00	..	..
Nickel-plated "	2.35	3.50	5.15	7.10	9.00	..	..

Face Bushings



Fig. G-264

Size, inches	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$
Rough each	.12	.15	.19	.27	.44	.62	.87

Size, inches	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4
Rough each	1.25	1.85	3.10	4.75	6.25

Floor Flanges



Fig. G-265

Size, inches	$\frac{1}{2}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Rough each	.35	.45	.53	.62	.75	1.00	1.17	1.50	1.80
Finished "	.70	.90	1.06	1.24	1.50	2.00	2.34	3.00	3.60
Nickel-plated "	.84	1.08	1.28	1.50	1.80	2.40	2.80	3.60	4.32

Standard Unions — Ground Joint



Fig. G-266

Size, inches	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$
Semi-finished . . . . .	.45	.55	.75	.95	1.30	1.75	2.50
Polished . . . . .	.50	.60	.85	1.05	1.40	1.90	2.75
Nickel-plated . . . . .	.60	.72	1.02	1.26	1.68	2.28	3.30

Size, inches	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4
Semi-finished	3.00	4.50	8.25	12.75	22.50	30.00
Polished	3.25	5.00	9.00	14.00	25.00	33.00
Nickel-plated	3.90	6.00	10.80	16.80	30.00	39.00

Octagon Union — Ground Joint



Fig. G-267

Size, inches	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$
Rough each	.60	.65	.85	1.10	1.50	2.00	2.80
Finished "	.85	.90	1.15	1.45	1.90	2.50	3.35
Nickel-plated "	1.02	1.08	1.38	1.74	2.28	3.00	4.02

Size, inches	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4
Rough each	3.60	5.25	9.00	14.00	22.50	30.00
Finished "	4.25	6.00	10.00	16.00	25.00	33.00
Nickel-plated "	5.10	7.20	12.00	19.20	30.00	39.60

THOMAS ROBERTSON & COMPANY, LIMITED

Standard Brass Fittings

Iron Pipe Size

For 125 lbs. Steam Working Pressure

Flange Unions



Fig. G-268

Pipe Size, inches	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Rough each	4.00	4.50	5.00	5.50	7.00	9.00

Pipe Size, inches	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	5	6
Rough each	11.50	15.00	18.00	22.00	35.00	45.00

Brass Nipples - Iron Pipe Size



Fig. G-269—Close



Fig. G-270—Shoulder & Long
Close Nipples

Size, inches	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	5	6
Length "	$\frac{3}{4}$	$\frac{7}{8}$	1	$1\frac{1}{8}$	$1\frac{3}{8}$	$1\frac{1}{2}$	$1\frac{5}{8}$	$1\frac{3}{4}$	2	$2\frac{1}{2}$	$2\frac{1}{2}$	$2\frac{3}{4}$	3	$3\frac{1}{2}$	4
Price each	.11	.13	.15	.23	.28	.37	.60	.70	1.00	1.70	2.50	4.00	4.75	8.50	11.50

Shoulder & Long Nipples

LENGTH, INCHES

Size	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5	$5\frac{1}{2}$	6
$\frac{1}{8}$ inch each	.13	.15	.17	.19	.21	.23	.25	.27	.29	.31
$\frac{1}{4}$ " "	.16	.19	.22	.25	.28	.31	.34	.37	.40	.43
$\frac{3}{8}$ " "	.19	.23	.27	.31	.35	.39	.43	.47	.51	.55
$\frac{1}{2}$ " "	.25	.30	.35	.40	.45	.50	.55	.60	.65	.70
$\frac{3}{4}$ " "	.35	.42	.49	.56	.63	.70	.77	.84	.91	
1 " "	.44	.53	.62	.71	.80	.89	.98	1.07	1.16	
$1\frac{1}{4}$ " "			.75	.88	1.01	1.14	1.27	1.40	1.53	1.66
$1\frac{1}{2}$ " "				.90	1.05	1.20	1.35	1.50	1.65	1.80
2 " "					1.20	1.40	1.60	1.80	2.00	2.20
$2\frac{1}{2}$ " "						2.00	2.30	2.60	2.90	3.20
3 " "						2.90	3.30	3.70	4.10	4.50
$3\frac{1}{2}$ " "								5.40	6.00	6.60
4 " "									6.15	6.85
5 " "										7.55
6 " "										8.25

For Polished Nipples, add 25 per cent.

For Polished & Nickel-plated, add 50 per cent.

For Chrome plating, prices quoted on application.

For Right & Left Nipples, add 50 per cent

For Extra Heavy Nipples, add 60 per cent

THOMAS ROBERTSON & COMPANY, LIMITED

Extra Heavy Brass Fittings

Cast Iron Pattern

For 250 lbs. Steam Working Pressure



Fig. G-271—Elbow



Fig. G-272—45° Elbow



Fig. G-273—Tee



Fig. G-274—Cross

Rough—Iron Pipe Size

Size..... inches	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	5	6
Elbows, 90°.....	.33	.45	.65	1.00	1.50	2.25	3.00	4.50	8.00	11.25	16.00	22.00	\$35	\$45
Elbows, Reducing .....	...	.55	.75	1.20	1.80	2.60	3.50	5.25	9.00	13.00	19.00	25.00	40	50
Elbows, R. & L.....	.40	.55	.75	1.20	1.80	2.60	3.50	5.25	9.00	13.00	...	...	...	...
Elbows, 45°.....	.45	.55	.75	1.10	1.65	2.50	3.25	4.50	8.00	11.25	16.00	22.00	35	45
Tees.....	.45	.60	.90	1.35	2.00	3.00	4.00	6.00	10.75	15.00	22.00	30.00	46	60
Tees, Reducing.....	...	.70	1.05	1.55	2.30	3.50	4.50	6.75	12.00	17.00	25.00	35.00	51	66
Crosses.....	.70	.90	1.30	2.00	3.00	4.50	6.00	9.00	16.00	22.50	28.00	37.00	60	75
Crosses, Reducing .....	...	1.10	1.50	2.40	3.60	5.25	7.00	10.50	18.00	26.00	32.00	42.00	66	82
Return Bends, Close .....	...	1.65	2.50	3.50	5.00	7.00	10.00	16.00	22.00	30.00	40.00	...	...	...
Return Bends, Open .....	...	1.80	2.75	4.00	5.50	8.00	11.00	18.00	25.00	35.00	45.00	...	...	...
Y Branches.....	.90	1.10	1.50	2.50	3.50	5.50	7.25	11.00	19.00	27.00	33.00	45.00	70	90
Couplings.....	.40	.50	.70	1.10	1.65	2.25	3.00	4.50	7.00	10.00	13.00	17.00	27	35
Unions Semi-fin'd	1.10	1.40	1.60	1.85	3.00	4.00	5.25	7.50	10.00	15.00	...	...	48	60
Flange Unions.....	...	...	7.50	8.50	11.00	13.00	16.00	18.00	24.00	27.00	30.00	...	...	...

Polished—Iron Pipe Size

Size..... inches	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	5	6
Elbows, 90°.....	.73	.95	1.25	1.75	2.50	3.50	4.50	6.25	10.50	14.75	23.50	\$31	\$48	\$60
Elbows, Reducing.....	...	1.15	1.50	2.10	3.00	4.10	5.35	7.50	12.00	17.25	28.00	36	56	70
Elbows, R. & L.....	.90	1.15	1.50	2.10	3.00	4.10	5.35	7.50	12.00	17.25	...	...	...	...
Elbows, 45°.....	.95	1.15	1.50	2.00	2.85	4.00	5.10	6.75	11.00	15.50	25.00	33	51	65
Tees.....	1.00	1.25	1.70	2.35	3.35	4.65	6.00	8.35	14.00	19.75	32.00	42	64	80
Tees, Reducing.....	...	1.50	2.05	2.80	4.00	5.50	7.00	9.75	16.00	23.00	37.00	50	70	90
Crosses.....	1.50	1.90	2.50	3.50	5.00	7.00	9.00	12.50	21.00	29.50	43.00	55	85	105
Crosses, Reducing .....	...	2.35	3.00	4.25	6.00	8.25	10.75	15.00	24.00	35.00	50.00	64	95	120
Return Bends, Close .....	...	2.85	4.00	5.50	7.50	10.00	13.50	21.00	29.00	45.00	58	...	...	...
Return Bends, Open .....	...	3.00	4.25	6.00	8.00	11.00	14.50	23.00	32.00	50.00	...	...	...	...
Y Branches.....	1.70	2.10	2.70	4.00	5.50	8.00	10.25	14.50	24.00	34.00	48.00	63	96	120
Couplings.....	.75	.90	1.15	1.70	2.40	3.20	4.15	5.85	9.00	13.00	18.50	24	37	47

These Fittings will be supplied ROUGH unless specified otherwise.

Elbows, Tees and Crosses, reducing more than 2 Sizes, supplied at 25% extra on Reducing Lists.
Return Bends, Right & Left, supplied at 25% extra on above lists

“Jenkins Bros.” Bronze Valves



Globe, Screwed
Fig. G-275



Angle, Screwed
Fig. G-276



Fig. G-277—Flanged

Standard Pattern for 150 Pounds Working Steam Pressure.

Size	inches	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Fig. G-275—6. Globe or Angle, Screwed	\$1.10	1.10	1.25	1.60	2.20	2.80	4.00	5.50	8.75	15.75	22.00	
Fig. G-277 Globe or Angle Flanged	3.50	4.00	4.00	5.00	6.00	9.00	11.00	16.50	25.00	34.00		



Hose Valve
Globe or Angle
Fig. G-278



Gate Valve
Fig. G-279—Screwed



Hose Gate
Fig. G-280

Size	inches	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Fig. G-278, for 250 lbs. Water Pressure . . . . .	\$	..	..	2.10	2.70	3.30	4.70	6.50	9.90	17.10	23.50
Extra for Cap and Chain . . . . .				..	1.80	2.20	2.30	3.00	5.10	4.90	6.50
Fig. G-279, for 125 lbs. { Working	1.45	1.45	1.65	2.05	2.80	3.70	5.00	7.30	13.00	19.00	
" 175 lbs. { Steam	2.35	2.35	2.75	3.25	4.50	6.00	8.00	13.00	20.00	32.50	
" 250 lbs. { Pressure . . . . .	..	..	..	5.00	6.00	8.00	11.25	16.50	23.00	40.00	65.00
Fig. G-280 for 175 lbs. Water Pressure . . . . .	..	..	..	2.45	3.35	4.70	6.25	9.00	15.00	22.00	
Extra for Cap and Chain . . . . .	..	..	..	1.50	1.75	2.00	2.60	3.60	5.00	7.50	

“Jenkins Bros.” Bronze Valves

Check Valves



Fig. G-281
Horizontal



Fig. G-282
Vertical

Swing Check Valves



Fig. G-283
Horizontal or Vertical

Standard Pattern for 150 Pounds Working Steam Pressure

Size.....	inches	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Fig. G-281-2. Hor'l or Vert'l S	\$	1.10	1.10	1.20	1.30	1.90	2.60	3.60	5.00	7.50	14.00	21.00
Fig. G-283. "	"		1.20	1.20	1.30	1.90	2.60	3.60	5.00	7.50	14.00	21.00

Blow-off Valve



Fig. G-284—Y or Blow-off
Valves, in Two Weights

“Selclo” Valves



Fig. G-285

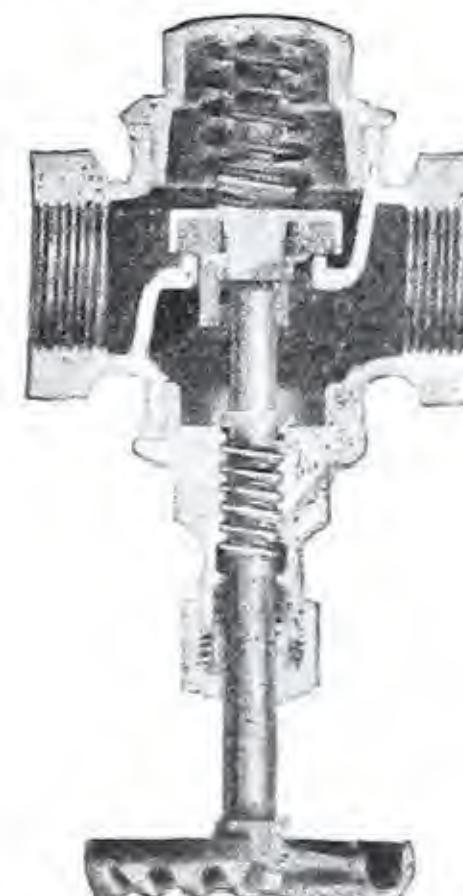


Fig. G-286—Sectional View

Size.....	inches	$\frac{1}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Fig. G-284. Standard for 150 lbs. Working. . . \$		2.00	2.00	3.00	4.00	5.00	6.50	9.25	18.00	25.00
Ex. Heavy "250 lbs. Pressure . . .			4.50	6.00	8.00	10.00	13.00	19.00	36.00	46.00
Fig. G-285-6. "Selclo" for 150 lbs. Steam Press. . .		4.85	5.35	5.85	8.15	12.00	15.60			

The “Selclo” Valve is designed for hard usage. The construction of the valve is such that it is mechanically impossible to crush the disc or seat in opening and closing. The valves are suitable for use on steam, air or water lines.

Turning the handwheel to the left the spindle will push the disc holder off the seat and open the valve. Turning the handwheel to the right, releases the spindle from the disc holder and the spring forces the disc holder to the seat with a steady even pressure. The pressure holds the valve closed.

"Jenkins Bros" Nickel-plated Radiator Valves



Fig. G-287
Angle Valve



Fig. G-288
Angle Valve with Union



Fig. G-289
Lockshield Valve



Fig. G-290
Union Elbow

Size.....	inches	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$
Fig. G-287—Angle Valve without Union	each	\$3.40	3.85	4.50	5.65	7.40
Fig. G-288— " " with Union.....	"	3.70	4.30	5.10	6.40	8.40
Fig. G-289—Lockshield Valve, same list prices as " " " Extra for Loose Keys		Fig. 287-288. 0.25	0.25	0.30	0.30	0.40
Fig. G-290—Union Elbow	each	1.75	2.00	2.50	3.30	4.25



Fig. G-291



Quick-Opening Angle Valves



Fig. G-293



Gate Valves

Size.....	inches	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$
Fig. G-291—Quick opening, without Union	each	\$2.95	3.25	3.90	5.00	6.30
Fig. G-292— " " with Union	"	3.25	3.70	4.50	5.75	7.30
Fig. G-293—N.P. Gate Valve, without Union	"	2.40	3.00	3.85	5.00	6.60
Fig. G-294— " " " with Union	"	3.65	4.25	5.20	6.60	9.00

Lockshield Pattern supplied if desired. Prices on application.

“Jenkins Bros.” Bronze Valves

Rapid Action Valves

For LAUNDRIES,
HOSPITALS.
HOTELS, etc.

Opened or Closed
instantly without
water hammer

INLET

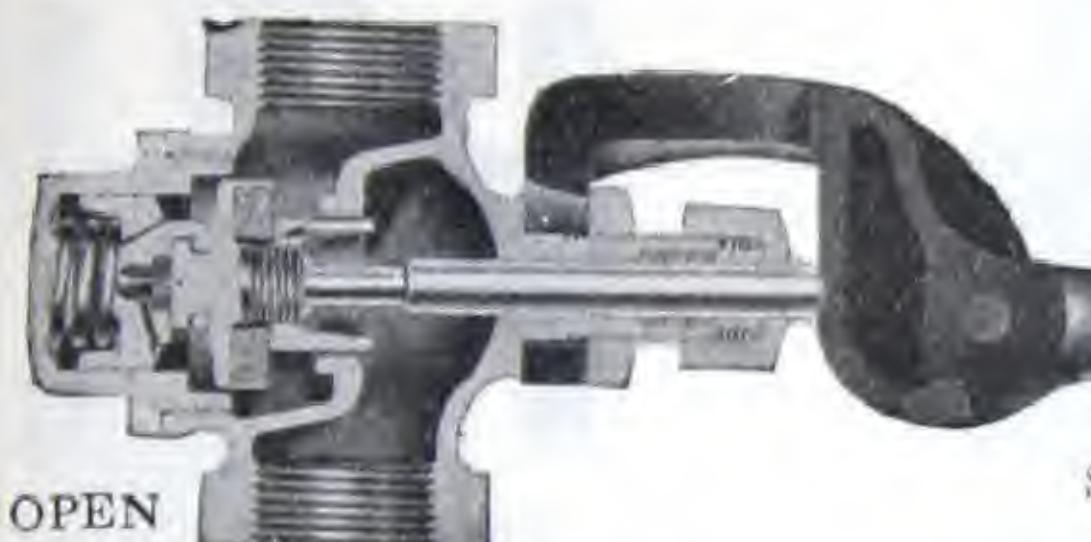


Fig. G-295



Outside view showing
position of lever when
valve is closed

Fig. G-296

Sectional view showing how valve
opens by lever bearing on end
of spindle, thus pushing
disc off the seat

Sizes $\frac{1}{2}$ to 2 inches suitable for pressures up to 150 lbs. $2\frac{1}{2}$ inch size up to 100 lbs.

Size.....	inches	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{2}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$
Rapid Action Valve,.....	each	\$7.00	9.00	10.00	12.00	15.00	20.00	28.00
Disc Holder complete.....		.70	.95	1.05	1.20	1.60	2.30	2.95

Bronze Whistle Valves

Quick-acting spring and lever
operated valves, closing auto-
matically when lever is re-
leased. For 150 pounds
Working Pressure.



Fig. G-297—For Vertical Pipe Line

Size, inches	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{2}$	$1\frac{1}{2}$	2
List Price...	\$3.25	4.00	4.50	6.25	7.75	9.00

Bronze Air Gun

For removing Dust, Chips, Lint, Filings, etc.

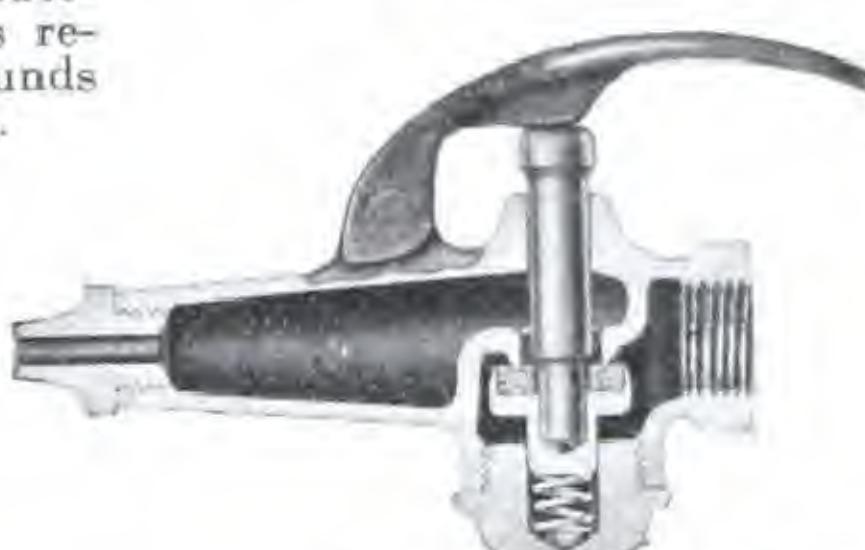


Fig. G-298. With Regular Tip

Size,	inches	$\frac{1}{2}$	$\frac{3}{4}$
With Regular Tip or "C" Tip.....		\$1.65	1.90

Extra for "B" Tip 0.50
Extra for "A" Hose Nipple
according to diameter
and length



A
Hose Nipple



B
Flat Tip



C
Rounded Tip

“Jenkins Bros.” Reliance and Sterling
Bronze Regrinding Valves



Fig. G-299—Globe



Fig. G-300—Angle



Fig. G-301—Flanged



Fig. G-302

CHECK VALVE
Screwed or Flanged

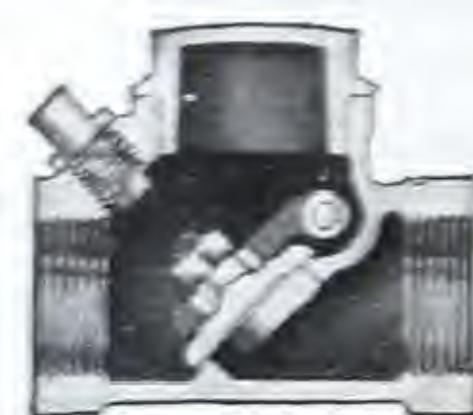


Fig. G-303

SWING CHECK
Screwed



Fig. G-304

SWING CHECK
Flanged

Medium Pressure “RELIANCE” Valves for 200 lbs. Steam Working Pressure

Size	inches	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{4}$	3
Fig. G-299-301. Globe or Angle	Screwed Flanged	\$1.30	1.30	1.50	1.90	2.50	3.50	5.00	7.00	11.00	20.00	29.00
		..	..	..	5.00	6.00	8.00	11.00	14.00	20.00	33.00	48.00
Fig. G-302. Hor'l or Vertical	Screwed Flanged	1.15	1.15	1.35	1.70	2.25	3.15	4.50	6.30	9.90	18.00	26.00
		..	..	..	4.00	5.00	7.00	10.00	13.00	18.00	30.00	43.00
Fig. G-303. Horizontal	Screwed	2.50	2.50	2.75	3.10	4.00	5.50	7.00	10.00	19.00	27.00	
Fig. G-304. "	Flanged	..	9.00	10.00	12.50	17.00	21.00	35.00	50.00	65.00		

Extra Heavy “STERLING” Valves for 300 lbs. Steam Working Pressure

Size	inches	$\frac{1}{4}$	$\frac{1}{2}$	$\frac{3}{8}$	$\frac{1}{2}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{4}$	3
Fig. G-299-301. Globe or Angle	Screwed Flanged	\$3.00	3.50	4.00	5.00	6.50	8.25	11.00	16.00	33.00	45.00
		..	..	6.00	7.50	10.00	13.00	17.00	24.00	43.00	57.00
Fig. G-302-304. Horizontal	Screwed Flanged	2.50	2.50	3.00	3.50	4.50	5.50	7.75	11.50	21.00	30.00
		..	..	5.00	6.50	8.50	10.50	14.25	20.00	31.00	42.00

THOMAS ROBERTSON & COMPANY, LIMITED

“Penberthy” Brass Valves

“DISCO” Valves with Composition Disc & Outside Bonnet

Suitable for 125 lbs. Steam Working Pressure



Fig. G-305—Globe



Fig. G-306—Angle



Fig. G-307—Check

Size.....	.....inches	1	1	1	1	1	1	1	2
Fig. G-305-6. Globe or Angle ..	\$1.10	1.25	1.60	2.20	2.80	4.00	5.50	8.75	
Fig. G-307. Horizontal Check..	1.10	1.20	1.30	1.90	2.60	3.60	5.00	7.50	

Regrinding Swing Check

For 200 lbs.
Steam Working Pressure



Fig. G-308

Fig. G-309
Gate-Valve
Non-rising
Spindle
and
Solid Wedge
Disc

For 150 lbs.
Steam Working Pressure



Fig. G-309

Size.....	.....inches	1	1	1	1	1	1	1	2	2	3
Fig. G-308. Swing Check.....	\$1.25	1.25	1.30	1.75	2.25	3.25	4.25	6.25	11.50	16.00	
Fig. G-309. Gate Valve.....	1.45	1.45	1.65	2.05	2.80	3.70	5.00	7.30	13.00	19.00	

THOMAS ROBERTSON & COMPANY, LIMITED

Disc Valves

For 150 lbs. Steam Working Pressure



Fig. G-310
Globe Valve



Fig. G-311
Angle Valve



Fig. G-312
Horizontal Check

Size	inches	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Fig. G-310-11. Globe or Angle		\$1.10	1.25	1.60	2.20	2.80	4.00	5.50	8.75	15.75	22.00
Fig. G-312. Check		1.10	1.20	1.30	1.90	2.60	3.60	5.00	7.50	14.00	21.00

Disc Radiator Valves — Nickel-plated



Fig. G-313
Angle Valve



Fig. G-314
Angle with Union



Fig. G-315
Lockshield



Fig. G-316
Gate Valve

Size	inches	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Fig. G-313, Angle Valve, without Union		\$3.40	3.85	4.50	5.65	7.40	
Fig. G-314. " " with Union		3.70	4.30	5.10	6.40	8.40	
Fig. G-315. Lockshield Valve				Same list prices as above.			
Extra for Loose Keys		0.25	0.25	0.30	0.30	0.40	
Fig. G-316. Gate Valve (Wood Wheel)		2.40	3.00	3.85	5.00	6.60	9.65

Quick-opening N. P. Radiator Valves



Fig. G-317—Angle



Fig. G-318 Angle
with Union



Fig. G-319—Union Elbow

Size,	inches	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Fig. G-317—Angle, without Union	\$2.95	3.25	3.90	5.00	6.30	10.50	
Fig. G-318— " with Union	3.25	3.70	4.50	5.75	7.30	12.00	
Fig. G-319—Union Elbow	1.75	2.00	2.50	3.30	4.25	7.20	

“Trane” Heating Specialties

Bellows Packless
Radiator Valve



Fig. G-320

Also supplied in
Lockshield pattern

Bellows
Trap



Fig. G-321
Section showing
Thermostatic
Bellows

Quick Vent
For Dry Steam



Fig. G-322
Section

Float Vent



Fig. G-323
Section

Booklet showing full Range of “Trane” Heating Specialties, and quotations,
will be furnished on application.

Standard Brass Valves



Fig. G-324—Globe



Fig. G-325—Angle



Fig. G-326
Needle Point Valve
For Gasoline, Oil, etc.

Size	inches	1	1	1	1	1	1	1	1	1	2	2	3
Fig. G-324-5—Globe or Angle	\$0.72	0.72	0.77	1.00	1.26	1.80	2.52	3.50	5.30	10.00	14.40		
Fig. G-326—Globe or Angle	1.20	1.40	1.50	2.00	2.50								



Fig. G-327
Horizontal Check



Fig. G-328
Vertical Check



Fig. G-329
Swing Check

Size	inches	1	1	1	1	1	1	1	1	2	2	3	
Fig. G-327—Horizontal	\$0.65	0.65	0.70	0.90	1.15	1.60	2.25	3.15	4.75	9.00	13.00		
Fig. G-328—Vertical	0.72	0.72	0.77	1.00	1.26	1.80	2.52	3.50	5.30	10.00	14.40		
Fig. G-329—Swing Check	1.80	1.80	2.00	2.25	2.80	3.65	4.75	6.75	15.00	24.00			

Standard Brass Valves



Fig. G-330—Standard Gate



Fig. G-331—Sliding Stem & Lever Gate

Size.....inches	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Fig. G-330—Standard Gate.....	\$1.45	1.45	1.65	2.05	2.80	3.70	5.00	7.30	13.00	19.00
Fig. G-331—Sliding Stem & Lever...			3.50	3.60	4.80	6.20	8.50	11.80	20.25	30.00



Fig. G-332

Fig. G-333
QUICK-OPENING
SOLID WEDGE
GATE VALVE

All Brass
Mall. Iron Handle

For Gasoline, Air,
Oil and Water
No danger
of leakage



Fig. G-333
Also supplied up to 4 inch
Prices on application.

Size.....inches	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Fig. G-332.....	\$2.00	2.50	3.00	3.50	5.00	6.00	9.00

Size.....inches	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Fig. G-333.....	\$6.50	7.50	10.00	13.00	17.00	26.00

Brass and Iron Stopcocks



Fig. G-334—Straight

BRASS
STEAM
STOPS



Fig. G-335
Three Way

Size.....	inches	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4
Fig. G-334—Brass, Straight...		\$0.85	1.00	1.25	1.70	2.35	3.70	4.85	7.30	14.50	22.50	38.50	50.00
Fig. G-335—“ 3-Way ...		1.80	2.10	2.50	3.00	3.75	5.75	7.15	11.00	18.75	26.00	...	...

Prices for EXTRA HEAVY on application.



Fig. G-336—Straight

IRON
STOPS
for
STEAM
WATER
AIR, GAS
& OIL

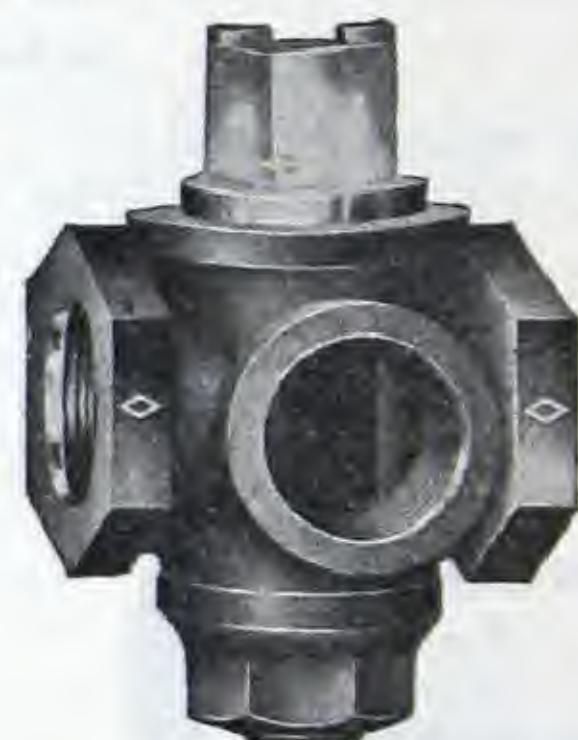


Fig. G-337
Three Way

Size.....	inches	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	5	6
Fig. G-336—Iron, Straight...	\$0.90	1.05	1.30	1.60	1.95	2.70	4.40	6.75	12.00	15.50	32.00	45.00	
With Brass Plug .	1.30	1.60	1.90	2.65	3.75	5.25	8.75	13.00	27.50	36.50	67.00	94.00	
Fig. G-337—Iron 3-Way ....	..	1.65	1.80	2.05	2.65	3.65	5.35	7.50	14.00	19.00	36.50	52.00	
With Brass Plug .	..	2.20	2.40	3.10	4.50	6.25	9.75	13.75	30.00	40.00	71.50	100.00	

Stopcock Wrench



Fig. G-338

Size of Stop cock	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	$3\frac{1}{2}$
Each.....	.05	.06	.07	.09	.14	.19	.25	.44	.56	1.00

Boiler Blow-off Valves



Fig. G-339—Screwed

Asbestos Packed Cocks
(Iron)

Standard for 150 lbs.

Extra Heavy for 250 lbs.

Working Steam Pressure



Fig. G-340—Flanged

Size.....inches	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4
Fig. G-339—Screwed, Stand'd.	\$3.20	3.20	3.20	4.20	5.00	7.00	9.50	14.00	24.00	36.00	54.00	60.00
" Ex. Hy.	..	..	4.80	6.00	7.00	10.00	13.50	20.00	34.00	52.00	76.00	84.00

Fig. G-340, Flanged, Stand'd. 5.00 7.00 9.50 14.00 24.00 36.00 54.00 60.00

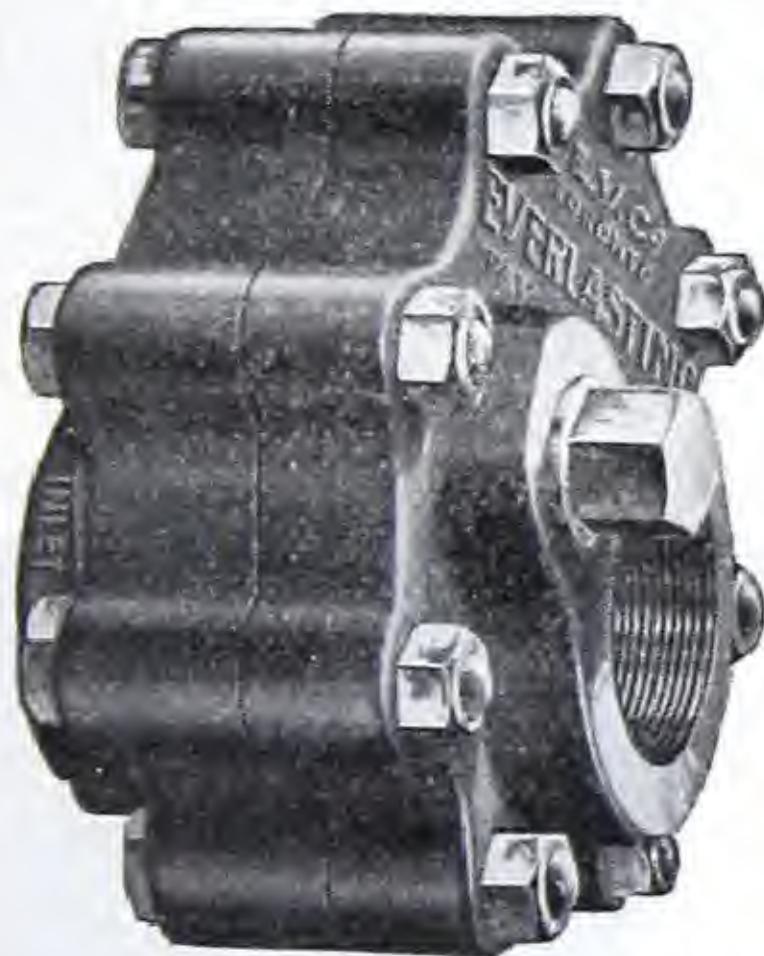


Fig. G-341—Screwed

The "Everlasting"

Blow-off and Throttle Valve

Extra Heavy

For 250 lbs. Working Steam Pressure

Regrinding
Self-cleaning

Non-clogging
Self-compensating

Supplied Screwed or Flanged

Size,.....inches	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	4
Screwed, each.....	\$11.00	11.00	16.00	22.00	25.00	32.00	44.00	70.00
Flanged, "	..	15.00	19.00	26.00	30.00	39.00	50.00	78.00
Diam. of Flanges.....	..	$4\frac{1}{2}''$	5"	6"	$6\frac{1}{2}''$	$7\frac{1}{2}''$	$8\frac{1}{4}''$	10"
Face to face ".....	..	$6\frac{1}{4}''$	$6\frac{7}{8}''$	8"	8"	$9\frac{1}{4}''$	$12\frac{1}{8}''$	$12\frac{1}{2}''$

Alkali type Valve should be used in the presence of alkali.

Always specify the service for which the valve is intended.

Valve Discs

As the COMPOSITION of Valve Discs is of the greatest importance in relation to their Service and Durability, it is necessary to state on orders the exact purpose for which the Valve Discs are required, and the approximate pressures, namely: Air; Steam (Dry, Wet or Saturated); Blow-offs; Vacuum Lines (Wet or Dry); Hot or Cold Water; Fire Lines; Pump Suction Lines; Gas; Oil (with the Temperature); etc.



Fig. G-342
Jenkins' Round Hole



Fig. G-343
Jenkins' Square Hole



Fig. G-344
Jenkins' Steam Metal Discs

Size, inches	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$		
Fig. G-342—Round Hole	.06	.08	.08	.10	.12	.18	.24	.36	.48	.80	1.00	1.20	1.40		
Fig. G-343—Square Hole				.10	.12	.18	.24	.36							
Size, inches	5	6	7	8	9	10	12	14	16	18	20	22	24		
Fig. G-342—Round Hole	1.60	2.00	2.40	2.80	3.60	4.50	5.00	7.00	8.00	10.00	12.00	15.00	18.00		
Size, inches	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$		
Fig. G-344, each	0.14	0.14	0.16	0.20	0.22	0.28	0.30	0.44	0.60	0.85	1.35	1.60	2.00	2.30	2.60

Prices for larger sizes on application.



Fig. G-345
'B' Disc, Round Hole



Fig. G-346
'B' Disc, Square Hole



Fig. G-347
Pump Valves

Size, inches	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4
Fig. G-345 and G-346, each	.06	.08	.08	.10	.12	.18	.24	.36	.48	.80	1.00	1.20

Fig. 347—PUMP VALVES for Air Compressors, Condenser Pumps, etc.

We supply valves suitable for cold, warm or hot water, either high or low pressure; also for syrups, oils, naphtha, acids, ammonia, or very muddy and gritty water and other destructive fluids; in fact for every pumping requirement. When ordering, state the kind of service in which the valves are to be used, the nature of the fluid, the pressure or head pump is working against, etc., and in all cases give Diameter, Thickness and Size of Hole.

Prices on application.

THOMAS ROBERTSON & COMPANY, LIMITED

“Jenkins Bros” Iron Body Gate Valves



Fig. G-348—Screwed

Type “K”

Iron Body, Composition
Mounted

Inside Screw,
Stationary Spindle

Sizes 2" to 16" suitable for
125 pounds steam pressure
175 pounds water pressure

Sizes 18" to 30" suitable for
100 pounds steam pressure
125 pounds water pressure.



Fig. G-349—Flanged

Size,.....	inches	2	2½	3	3½	4	5	6	8	10	12
Fig. G-348—Screwed.....		\$10.00	11.50	14.00	17.00	19.00	27.50	32.50	54.00	90.00	125.00
Fig. G-349—Flanged.....		12.00	13.50	16.50	19.50	23.00	31.50	36.50	58.00	95.00	133.00

Prices for larger sizes (Flanged only) on application.

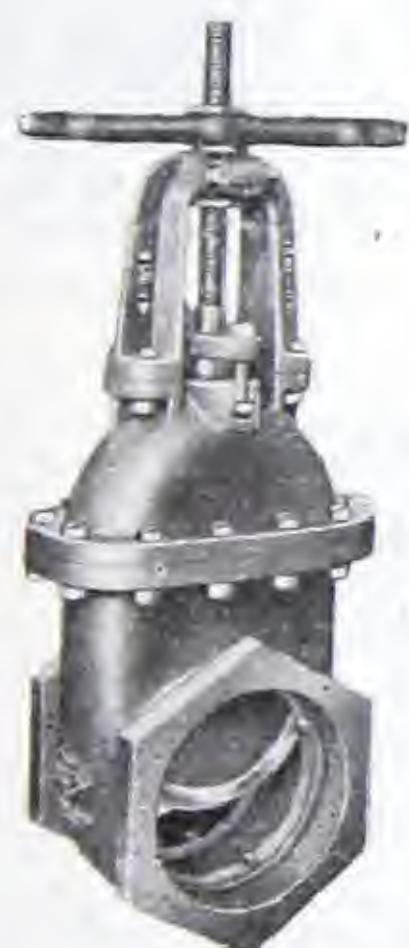


Fig. G-350—Screwed

Type “K”

Iron Body, Composition
Mounted

Outside Screw and Yoke
Rising Spindle

Sizes 2" to 16" suitable for
125 pounds steam pressure
175 pounds water pressure

Sizes 18" to 30" suitable for
100 pounds steam pressure
125 pounds water pressure



Fig. G-351—Flanged

Size,.....	inches	2	2½	3	3½	4	5	6	8	10	12
Fig. G-350—Screwed.....		\$19.00	20.50	23.50	27.00	32.50	45.00	52.00	86.00	131.00	172.00
Fig. G-351—Flanged.....		21.00	22.50	26.00	29.50	36.50	49.00	56.00	90.00	136.00	180.00

Prices for larger sizes (Flanged only) on application.

“Jenkins Bros.” Iron Body Gate Valves



Fig. G-352
Hub Ends
(Also furnished with Iron Hand Wheel)

Type “K” Inside Screw
Stationary Spindle

Fig. G-352

For 150 lbs. Water Pressure

Note. Valves are supplied
opening to the left, unless
specified otherwise

Fig. G-353

Sizes 2" to 16" suitable for
125 pounds steam pressure
175 pounds water pressure

Sizes 18" to 30" suitable for
100 pounds steam pressure
125 pounds water pressure.

Sliding Stem and Lever

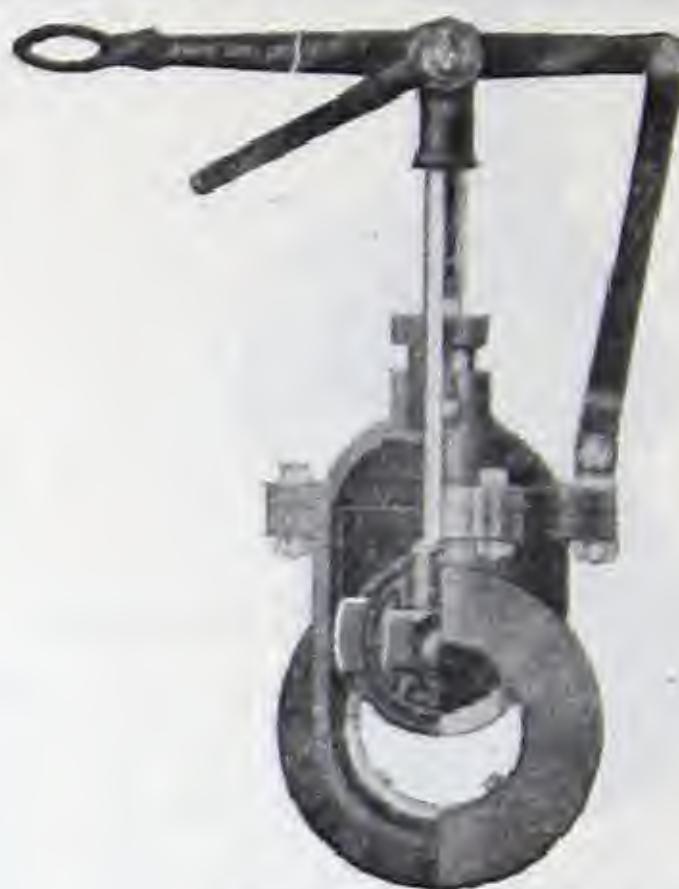


Fig. G-353
Screwed or Flanged

Size, ins.	2	3	4	5	6	8	10	12	14	16	18	20	24
Fig. G-352	\$10.00	14.00	19.00	27.50	32.50	54.00	90.00	125.00	173.00	250.00	340.00	415.00	590.00

Size inches	2	2½	3	3½	4	5	6	8	10	12	14	16	18
Fig. G-353 / Screwed	\$17.50	19.00	22.00	25.00	30.00	42.00	48.00	80.00	122.00	160.00			

Fig. G-353 / Flanged	19.50	21.00	24.50	27.50	34.00	46.00	52.00	84.00	127.00	168.00			
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Prices for larger sizes (Flanged only) on application.



Fig. G-354

Low Pressure Gate Valves

Inside Screw, or Outside Screw & Yoke

For Water Pressure up to 50 lbs. and
Exhaust, Air and Gas up to 30 lbs. pressure

Size, inches	10	12	14	16	18
Diam. Flanges, inches	16	19	21	23½	25
Inside Screw, each	\$82.00	120.00	165.00	215.00	300.00
Outside Screw, "	115.00	150.00	200.00	255.00	340.00

Size, inches	20	24	30	36
Diam. Flanges, inches	27½	32	38½	46
Inside Screw, each	\$345.00	540.00	1025.00	1450.00
Outside Screw, "	395.00	610.00	1125.00	1650.00

Prices of smaller sizes on application.

“Jenkins Bros.” Iron Body Gate Valves

Extra Heavy

for 250 Pounds
Working Steam Pressure.
Screwed or Flanged

Medium

for 175 Pounds
Working Steam Pressure.
Screwed or Flanged

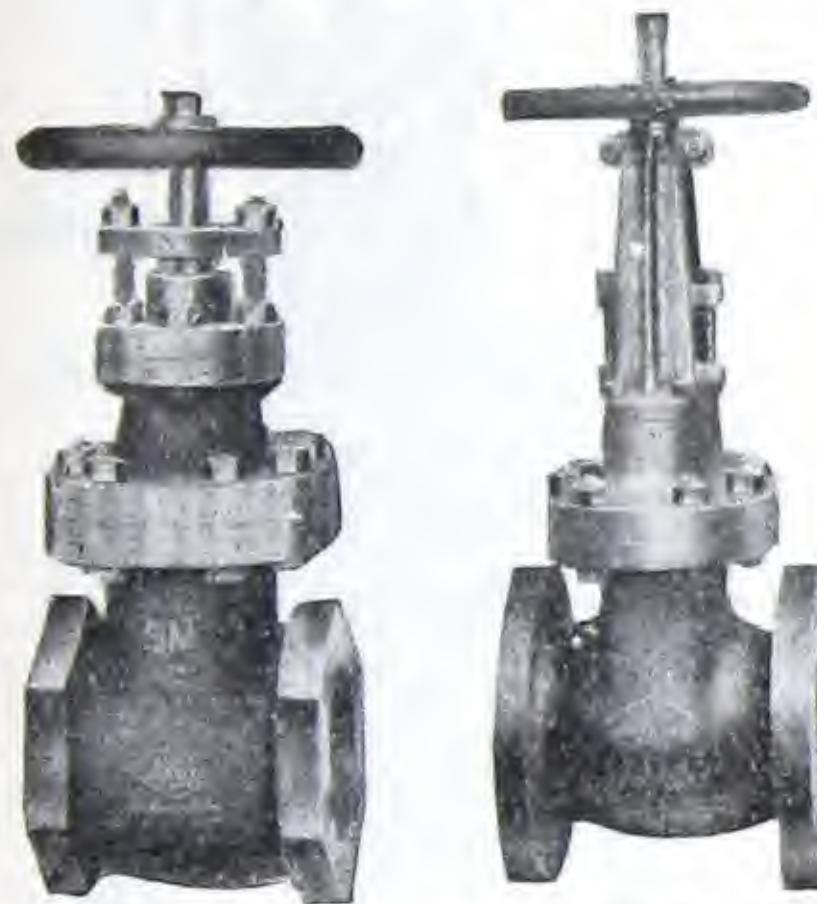


Fig. G-355
Inside Screw
Stationary Spindle

Fig. G-356
Outside Screw
and Yoke



Fig. G-357
Inside Screw
Stationary Spindle



Fig. G-358
Outside Screw
and Yoke

Size, . . . inches	2	2½	3	3½	4	5	6	8	10	12	14	16
Medium												
Fig. G-355 { Screwed Flanged	\$15.00 17.50	17.00 19.50	20.00 23.00	25.00 28.00	28.00 33.00	40.00 45.00	50.00 57.00	87.00 94.00	145.00 153.00	185.00 195.00	.. 300.00	400.00
Fig. G-356 { Screwed Flanged	23.00 25.50	25.00 27.50	29.00 32.00	35.00 38.00	40.00 45.00	54.00 59.00	65.00 72.00	110.00 117.00	170.00 178.00	215.00 225.00	.. 340.00	450.00

Size, . . . inches	2	2½	3	3½	4	5	6	8	10	12	14	16
Extra Heavy												
Fig. G-357 { Screwed Flanged	\$27.50 30.00	33.00 35.50	45.00 48.00	57.00 60.00	60.00 65.00	85.00 90.00	100.00 107.00	155.00 162.00	250.00 258.00	.. 335.00	440.00 440.00	675.00
Fig. G-358 { Screwed Flanged	35.50 38.00	41.00 43.50	54.00 57.00	67.00 70.00	72.00 77.00	100.00 105.00	115.00 122.00	180.00 187.00	275.00 283.00	.. 390.00	510.00 510.00	750.00

Any of these Valves also supplied with by-pass. Prices on application.

“Jenkins Bros.” Valve Operating Mechanism

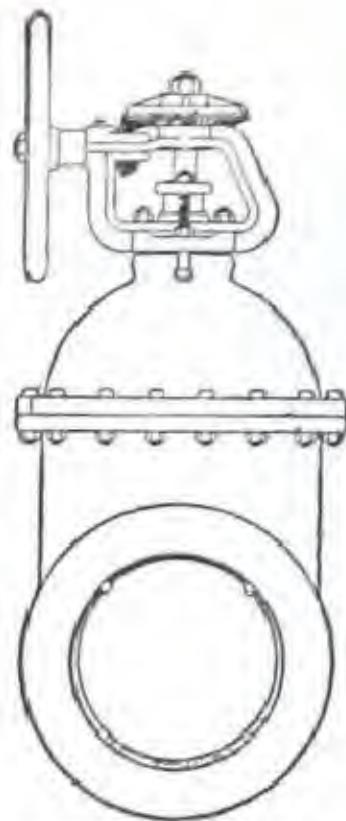


Fig. G-359

Inside Screw
Bevel Gears

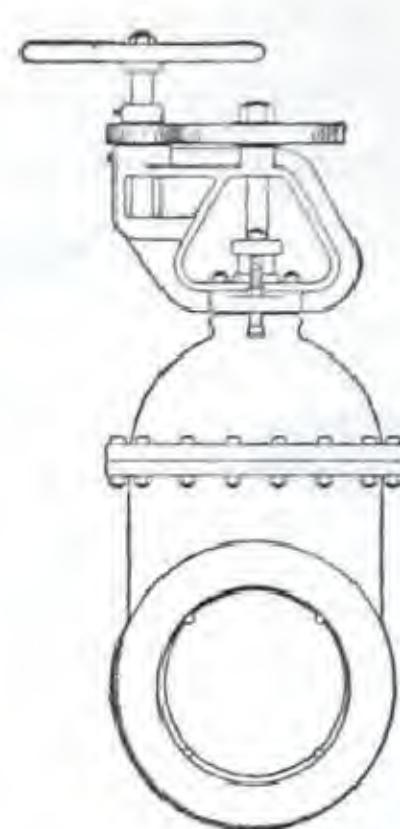


Fig. G-360

Inside Screw
Spur Gears

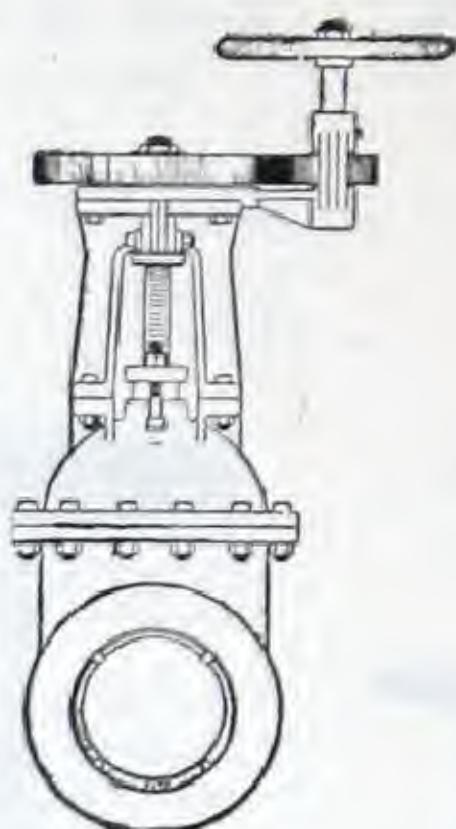


Fig. G-361

Outside Screw
and Yoke
Spur Gears

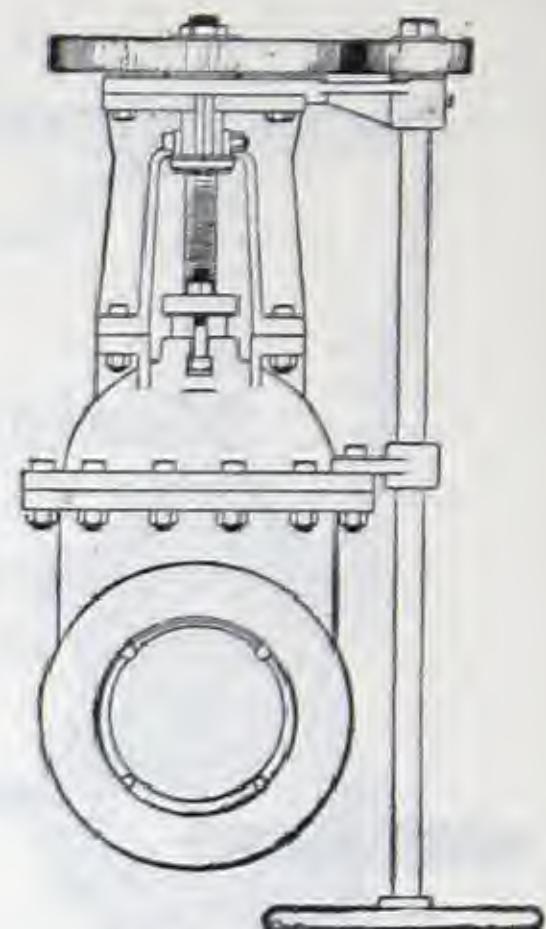


Fig. G-362

Outside Screw and
Yoke
Spur Gears

The Bracket is adjustable and can be fixed on any side of the Valve, as required.

These Operating Mechanisms are adaptable to all Jenkins Iron Body Gate Valves, in Standard, Medium and Extra Heavy Weights.

“Jenkins Bros.” Iron Body Blow-off Valves

With Yoke

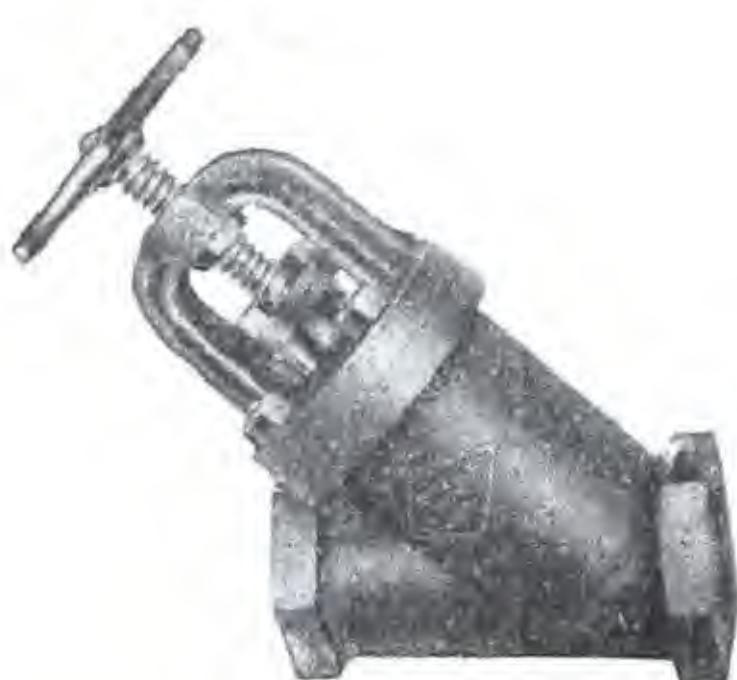


Fig. G-363

MEDIUM—Screwed or Flanged
for 150 Pounds Working
Steam Pressure

Also made, if required,
of
Acid-Resisting
Metal



Fig. G-364

EXTRA HEAVY—Screwed or Flanged
for 250 pounds Working
Steam Pressure

Size, inches	2	2½	3
Screwed	\$11.00	15.00	20.00
Flanged	13.00	18.00	23.00

Size. inches	2	2½	3
Screwed	\$16.00	20.00	26.00
Flanged	18.00	24.00	32.00

“Jenkins Bros.” Cast Steel Gate Valves

Extra Heavy—for 350 Pounds Working Steam Pressure



Fig. G-365



Fig. G-366

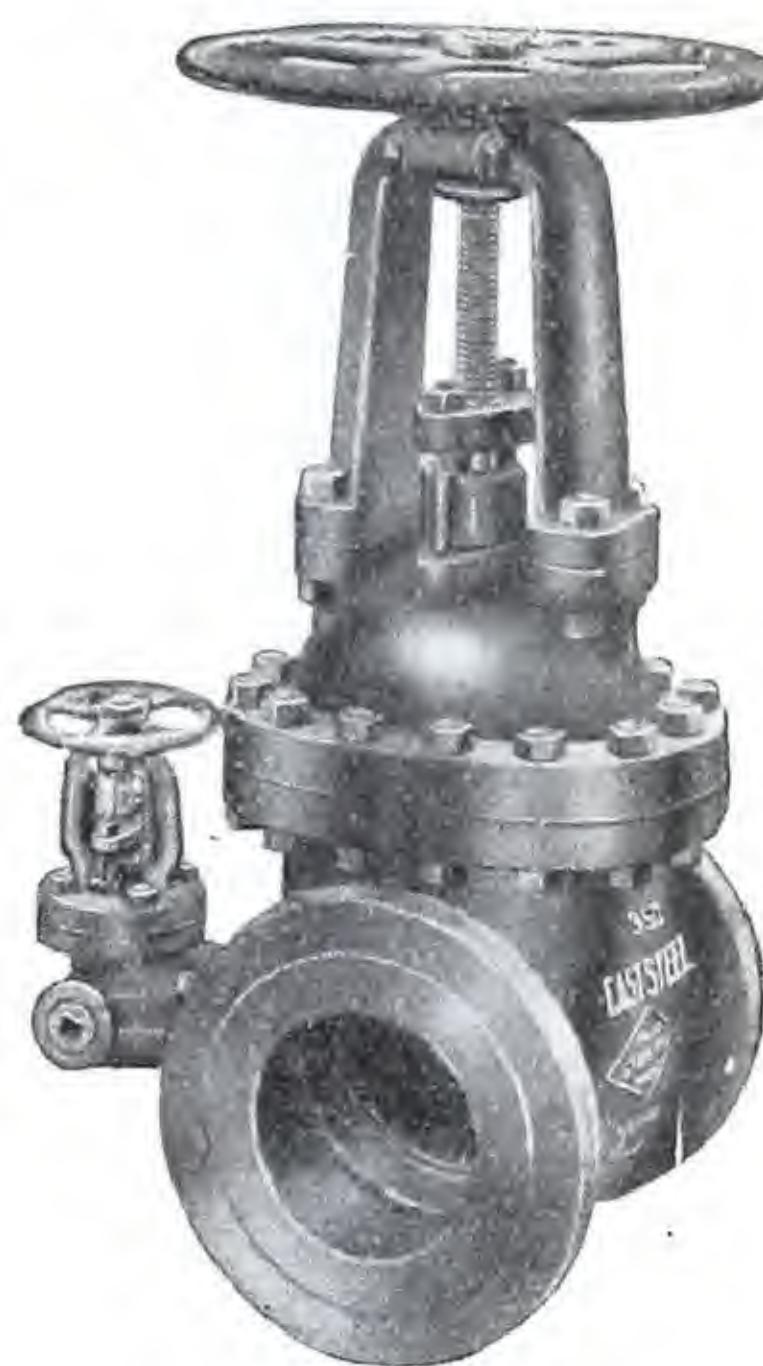


Fig. G-367

Inside Screw
Stationary Spindle

Outside Screw & Yoke
Rising Spindle

Outside Screw & Yoke
With By-pass

Size, inches	2	2½	3	3½	4	5	6	8	10	12
Fig. G-365 Flanged	\$ 41.50	52.50	64.00	78.00	90.00	115.00	130.00	185.00	280.00	340.00
With By-Pass							170.00	225.00	325.00	400.00
Fig. G-366 Flanged	50.00	62.50	75.00	90.00	105.00	135.00	155.00	225.00	340.00	435.00
With By-Pass							205.00	275.00	400.00	515.00

Prices for larger sizes on application.

These Valves are specially adaptable to Superheated Steam Service. The spindles, seat-rings and wedge faces are made of Monel Metal. The tensile strength is high; it is very hard, durable and non-corrosive, and expands and contracts practically the same as cast steel. The bodies, bonnets and wedges are of cast steel.

When Valves are ordered with the flanges faced and drilled, the bolt holes will be spot-faced, unless ordered otherwise.

Indicator Posts

Fire Underwriters Approved Pattern



Fig. G-368

Prices on application.

Floor Stands

With Indicator Attachments
Suitable for Stationary or Rising Spindle Valves

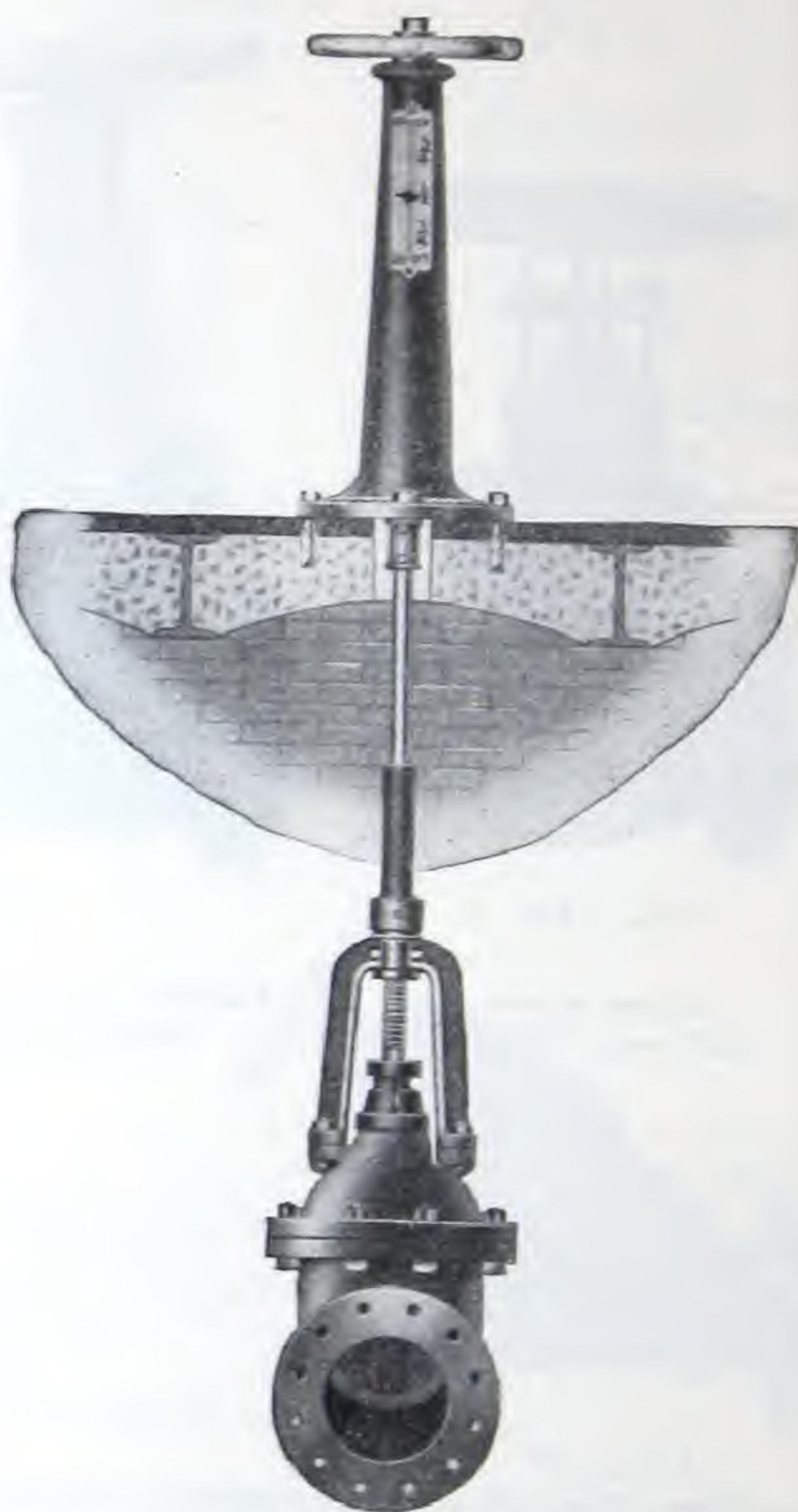


Fig. G-369

Prices on application.

Fig. G-368—When enquiring for prices for Posts to fit Valves already installed, state size, number of turns to open, also whether valve opens by turning to right or left.

Extension Service and Valve Boxes



Fig. G-370

Service or Stop Cock Boxes 2½ inch Shaft

Size	Extension	Price
88.....	1 ft. stationary length	\$2.00
89-A.....	1 ft. to 1 ft. 8 in.	2.50
90-B.....	1 ft. 6 in. to 2 ft. 2 in.	2.70
91-C.....	1 ft. 9 in. to 2 ft. 9 in.	3.10
92-C.....	2 ft. to 3 ft. 2 in.	3.30
92-D.....	2 ft. to 3 ft. 6 in.	3.70
93-D.....	3 ft. to 4 ft. 0 in.	4.00
93-E.....	3 ft. to 4 ft. 6 in.	4.30
94-D.....	3 ft. 6 in. to 4 ft. 9 in.	4.40
94-E.....	3 ft. 6 in. to 5 ft. 0 in.	4.60
95-E.....	4 ft. to 5 ft. 6 in.	4.90
100-E.....	4 ft. 6 in. to 6 ft. 0 in.	5.30
100-F.....	4 ft. 6 in. to 6 ft. 6 in.	5.60
95-G.....	4 ft. to 7 ft.	5.90
100-G.....	4 ft. 6 in. to 7 ft. 6 in.	6.30

For Water or Gas

Covers marked
"Water," unless
otherwise specified

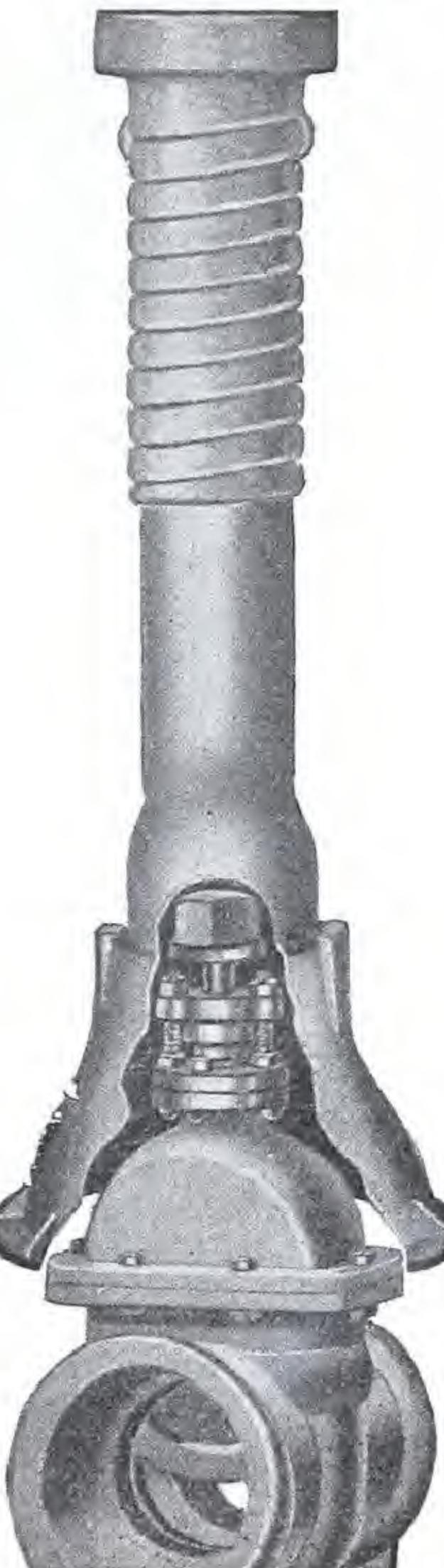


Fig. G-371—(No. 6 Base)

Screw-Type adjustable Valve Boxes

5 1/4 inch Shaft

For water and gas valves
Interchangeable with all style bases
Covers marked "Water," unless
otherwise specified

Size	Extension	Price
AAA.....	17 in. stationary length	\$12.00
AA.....	1 ft. 10 in. to 2 ft. 4 in.	14.50
A.....	2 ft. 4 in. to 3 ft. 4 in.	15.10
B.....	3 ft. to 4 ft.	16.40
C.....	3 ft. 6 in. to 4 ft. 6 in.	17.10
CC.....	4 ft. to 5 ft.	18.00
D.....	3 ft. 6 in. to 5 ft. 6 in.	18.90
E.....	4 ft. to 6 ft.	20.40
F.....	5 ft. to 7 ft.	21.90
G.....	6 ft. to 8 ft.	23.80

Above prices do not include the Valve. They are for Boxes only with No. 6 Base. When furnished with other size bases, prices are reduced or increased accordingly.

Note—All Bases are the same size on the top, where the shaft connects, and can be used with 5 1/2" or 7" shaft.

“Jenkins Bros.” Cast Iron Gate Valves
Electrically and Hydraulically operated



Fig. G-372
Electrically Operated
Gate Valves
Supplied in Standard, Medium
or Extra Heavy patterns

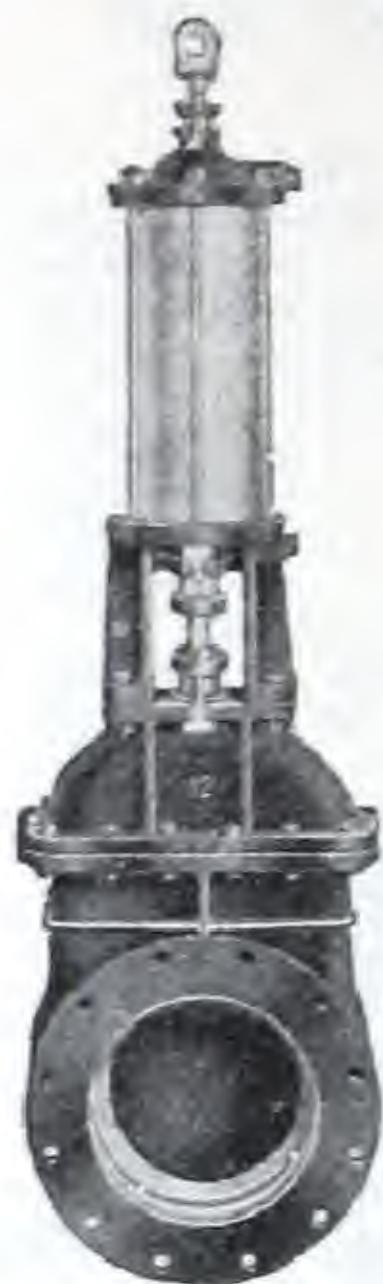


Fig. G-373

Hydraulically Operated Gate Valves

Brass Cylinder
with stay bolts

Cast Iron Cylinder
brass lined

For All Pressures—SIZES $2\frac{1}{4}''$ to $36''$

When enquiring for prices please state
minimum pressure on cylinder, maximum
pressure against disc.

Fig. G-374

Hydraulically Operated Gate Valves

Cast Iron Cylinder
brass lined

For All Pressures—SIZES $2\frac{1}{4}''$ to $36''$

Fig. G-372 Electrically Operated Valves are being extensively used in the Water Works field, and it is becoming standard practice to protect steam lines in Central Stations by having one or more control units located in convenient and safe places to provide emergency operation in case of a break in the line. Handwheel allows for hand operation in case the unit is left off or in case of failure of electric current.

These Electrically Operated Valves are made to operate on any of the following circuits. Direct current for 110 and 220 Volts. Alternating current for 25, 40 and 60 cycles, single phase, 220 Volts.

Upon receipt of enquiries for Electrically Operated Valves we will forward a data sheet to be filled out before quoting prices.

“Jenkins Bros.” Iron Body Check Valves



Fig. G-375—Screwed

SWING CHECK

Underwriters'
Approved
Pattern

for 150 pounds
Working Pressure



Fig. G-376—Flanged

Size, inches	2½	3	3½	4	5	6	8	10	12
Screwed	\$12.00	13.50	17.50	20.00	30.00	36.00			
Flanged		14.50	17.00	21.00	24.00	34.00	41.00	75.00	115.00
Hub Ends			19.00		27.00	38.00	45.00	82.50	125.00



Fig. G-377—Screwed

SWING CHECK

Extra Heavy
Pattern

for 250 pounds
Working Pressure

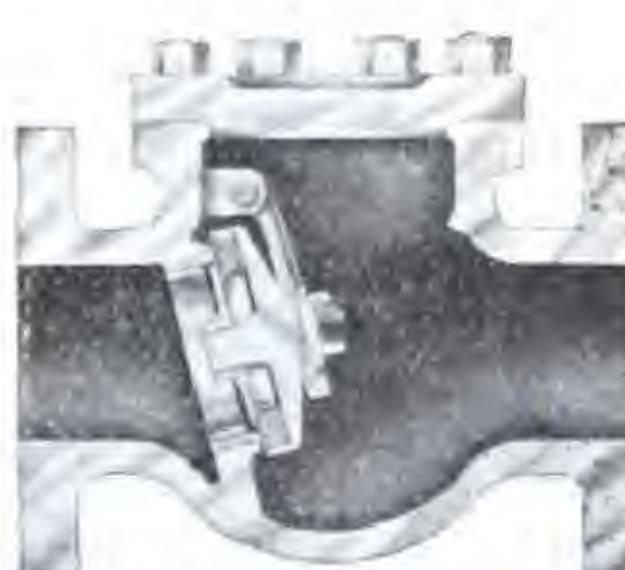


Fig. G-378—Flanged

Size, inches	2	2½	3	4	5	6	8
Fig. G-377 Screwed	\$15.00	20.00	28.00	41.00	54.00	66.00	100.00
Fig. G-378 Flanged		17.00	22.00	30.00	44.00	57.00	70.00

“Jenkins Bros.” Iron Body Valves, with Yoke

GLOBE VALVE



Fig. G-379—Screwed or Flanged

ANGLE VALVE



Fig. G-380—Screwed or Flanged

Standard Pattern

2" to 12" for 150 lbs.
Working Steam Pressure

14" and larger, for 100 lbs.
Working Steam Pressure

Size, inches	2	2½	3	3½	4	5	6	8	10.	12
Globe or { Screwed	\$10.00	12.00	16.75	19.50	24.00	40.00	48.00	90.00	130.00	185.00
Angle { Flanged	11.75	14.00	18.50	21.50	26.00	42.00	50.00	90.00	130.00	185.00

Prices for larger sizes (Flanged only) on application.



Fig. G-381—Screwed or Flanged

Extra Heavy

For 250 lbs. Working
Steam Pressure



Fig. G-382—Screwed or Flanged

Size, inches	2	2½	3	3½	4	5	6	8	10	12
Globe or { Screwed	\$16.00	19.00	24.00	28.00	38.00	53.00	70.00	110.00	180.00	230.00
Angle { Flanged	18.00	21.00	26.00	30.00	40.00	55.00	73.00	110.00	180.00	230.00

THOMAS ROBERTSON & COMPANY, LIMITED

“Jenkins Bros.” Cast Steel Valves, with Yoke

GLOBE VALVE



Fig. G-383—Flanged

ANGLE VALVE



Fig. G-384—Flanged

Extra Heavy Pattern

For 350 lbs. Working
Steam Pressure

Total Temperature
of 800 Degrees Fah't

Size, inches	2	2½	3	3½	4	5	6	8	10	12
Globe or Angle	\$57.50	70.00	85.00	100.00	100.00	125.00	145.00	210.00	325.00	415.00

Automatic Equalizing Stop and Check Valves

Also known in the trade as “Non-Return” Valves

Extra Heavy Iron Body Globe or Angle Pattern

for 250 Pounds
Working Steam Pressure

These valves are designed to automatically shut off the flow of steam from the header to a boiler in case a tube should burst or other internal rupture occur, thereby suddenly reducing the pressure in that boiler. They also equalize the pressure between the different boilers in a battery, preventing one boiler from working at a lower pressure than another. As the valves can only be opened by the pressure in the boiler to which they are attached, it is impossible to accidentally turn steam into a boiler which is being cleaned.

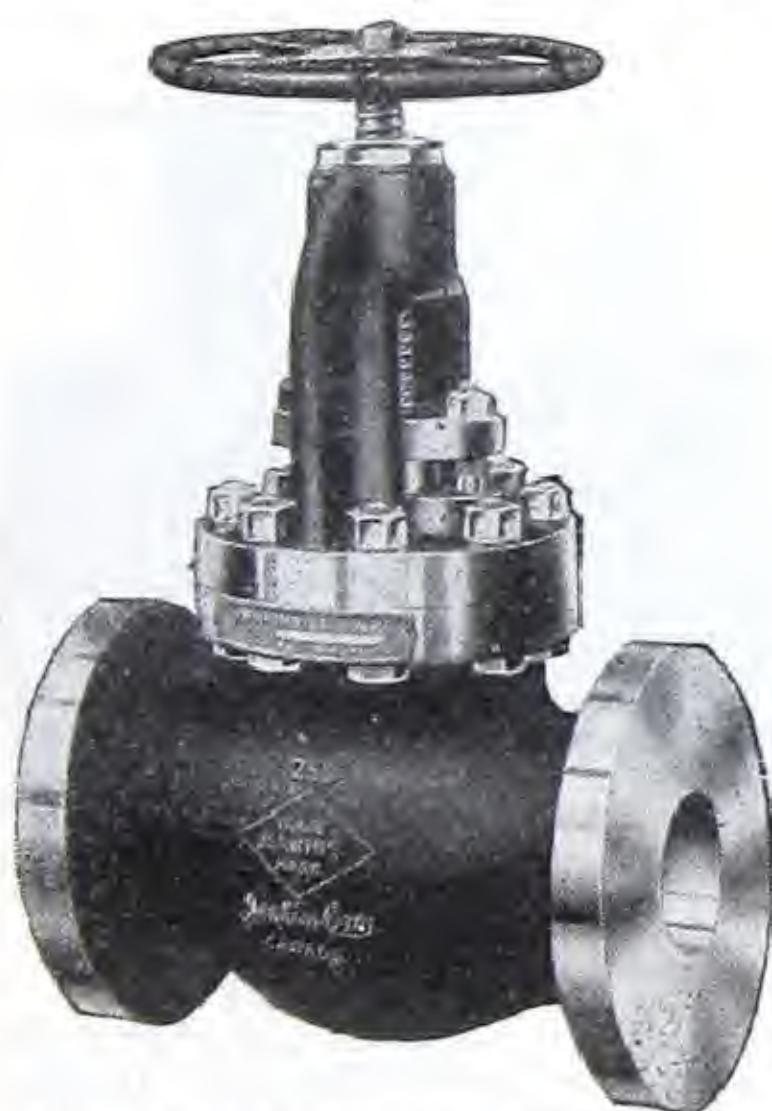


Fig. G-385—Globe, Flanged



Fig. G-386—Angle, Flanged

Size, inches	3	4	5	6	8
Diam. of Flange Globe or Angle, each	8½ \$45.00	10 60.00	11 80.00	12½ 95.00	15 145.00

"Sigma" Cast Steel Special Duty Valves



Fig. G-387
Inside Screw Gate

For Classification of Pressures
and Temperatures
see page 103

These Valves
can be supplied
Screwed or Flanged

*Four types of these special
Valves are shown on this page.
Several types are made to suit
various conditions.*



Fig. G-388
Outside Screw & Yoke

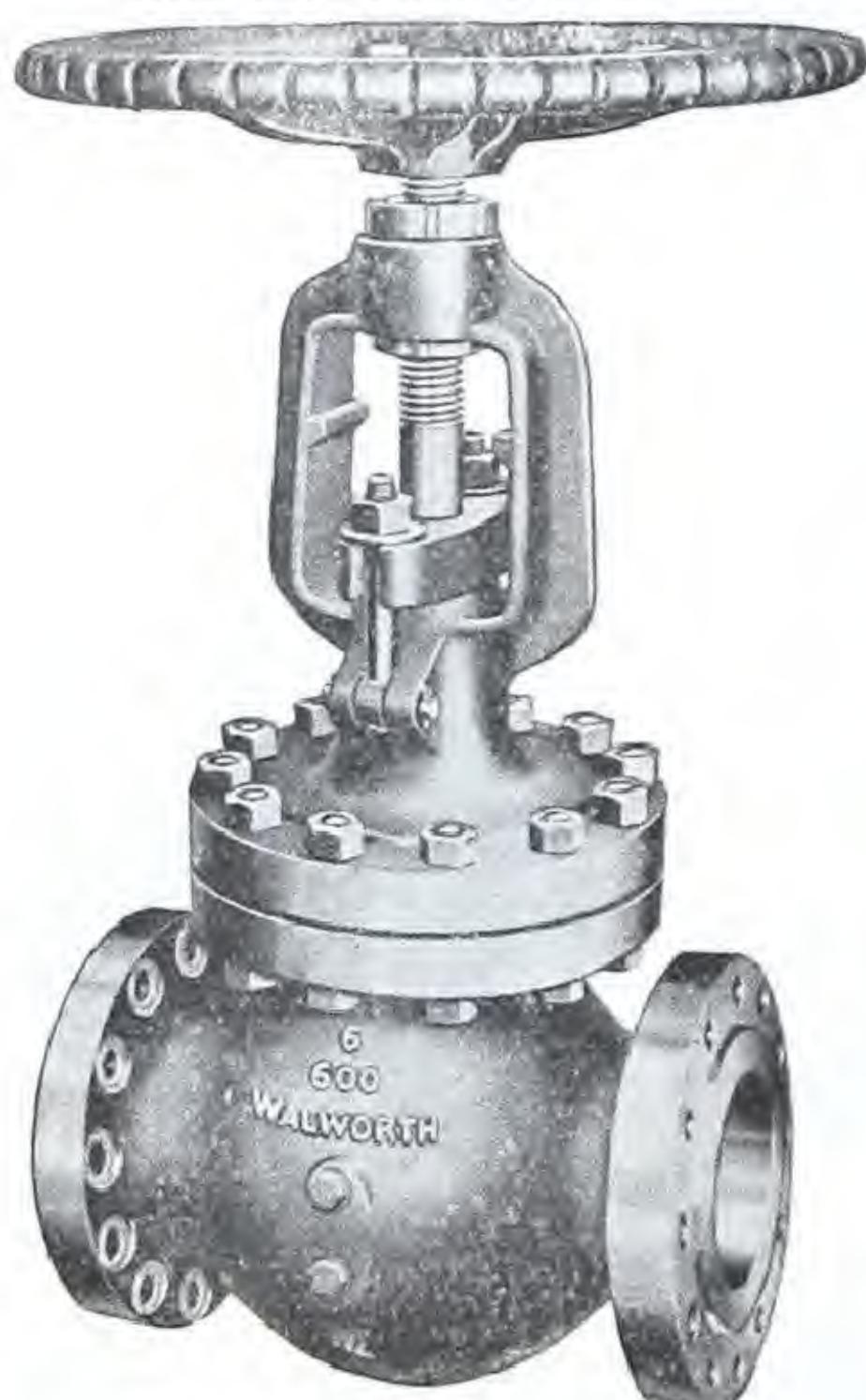


Fig. G-389 Globe or Angle



Fig. G-390
Swing Check

*For List Prices of "Sigma" Double
Ex. Hy. Flanged Fittings,
see pages 103-5.*

A special "Sigma" booklet
will be mailed on
application

Standard Iron Body Gate Valves

For 125 lbs. Working Steam Pressure

INSIDE SCREW—NON-RISING SPINDLE



Fig. G-391—Screwed



Fig. G-392—Flanged



Fig. G-393—Hub Ends

Size, inches	2	2½	3	3½	4	5	6	8	10	12
Fig. G-391—Screwed	\$10.00	11.50	14.00	17.00	19.00	27.50	32.50	54.00	90.00	125.00
Fig. G-392—Flanged	12.00	13.50	16.50	19.50	23.00	31.50	36.50	58.00	95.00	133.00
Fig. G-393—Hub Ends	10.00	..	14.00	..	19.00	27.50	32.50	54.00	90.00	125.00

List Prices for larger sizes (Flanged or Hub Ends) on application.

GATE VALVE
With Sliding Stem and Lever



Fig. G-394
OUTSIDE
SCREW & YOKE

These Valves can
be supplied "Open
to the Right" when
required, at same prices.

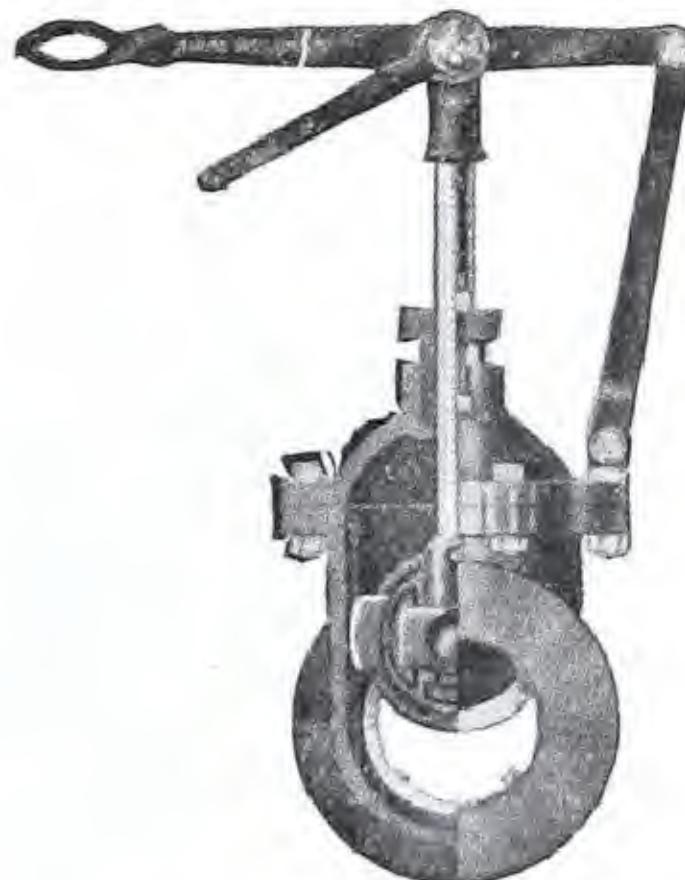


Fig. G-394
Screwed or Flanged

Fig. G-395
Screwed or Flanged

Size, inches	2	2½	3	3½	4	5	6	8	10	12
Fig. G-394 { Screwed	\$19.00	20.50	23.50	27.00	32.50	45.00	52.00	86.00	131.00	172.00
Flanged	21.00	22.50	26.00	29.50	36.50	49.00	56.00	90.00	136.00	180.00
Fig. G-395 { Screwed	17.50	19.00	22.00	25.00	30.00	42.00	48.00	80.00	122.00	160.00
Flanged	19.50	21.00	24.50	27.50	34.00	46.00	52.00	84.00	127.00	168.00

Standard Valves — Iron Body

GLOBE VALVE



Fig. G-396—Screwed

ANGLE VALVE



Fig. G-397—Flanged

For 125 lbs.

Working Steam Pressure

Supplied

Screwed or

Flanged

Size, inches	2	2½	3	3½	4	5	6	8	10	12
Globe or Angle	\$7.00	9.00	12.50	15.25	19.00	27.00	37.50	72.00	114.00	170.00
Screwed	8.60	10.75	15.00	18.50	22.50	31.00	42.00	77.00	123.00	187.00
Flanged										



Fig. G-398—Screwed

SWING CHECK VALVES

For 125 lbs.

Working
Steam
Pressure

Supplied
Screwed or
Flanged



Fig. G-399—Flanged

Size, inches	2	2½	3	3½	4	5	6	8	10	12
Fig. G-398 { Screwed	\$11.00	12.00	13.50	17.50	20.00	30.00	36.00	70.00	110.00	160.00
Fig. G-399 { Flanged	13.00	14.50	17.00	21.00	24.00	34.00	41.00	75.00	115.00	168.00

THOMAS ROBERTSON & COMPANY, LIMITED

Iron Body Safety Valves

With Lever and Ball Weight

For 100 lbs. Working Steam Pressure



Fig. G-400—Angle
Screwed or Flanged

These Valves should be set slightly higher than the working pressure carried on the apparatus to which they are connected.

Sizes 1" to 3" have brass screwed top, larger sizes have cast iron top which can be set at any 90° angle.



Fig. G-401—Three-Way
Screwed or Flanged

Size, inches	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	4	5	6	8
Angle or 3-Way	\$4.00	5.00	5.80	7.80	13.25	17.25	23.00	28.75	41.50	57.75	132.00
Screwed					10.25	16.00	21.50	27.50	34.00	48.00	65.00
Flanged . . . . .	...	...	...	6"	7"	7 $\frac{1}{2}$ "	8 $\frac{1}{2}$ "	9"	10"	11"	13 $\frac{1}{2}$ "
Diam. of Flange . . . . .	...	...	...					

Flanged Valves are supplied faced only, unless specified otherwise.

Iron Body Back Pressure Valves

For Back Pressure Up to 5 Pounds



Fig. G-402—Globe
Screwed or Flanged

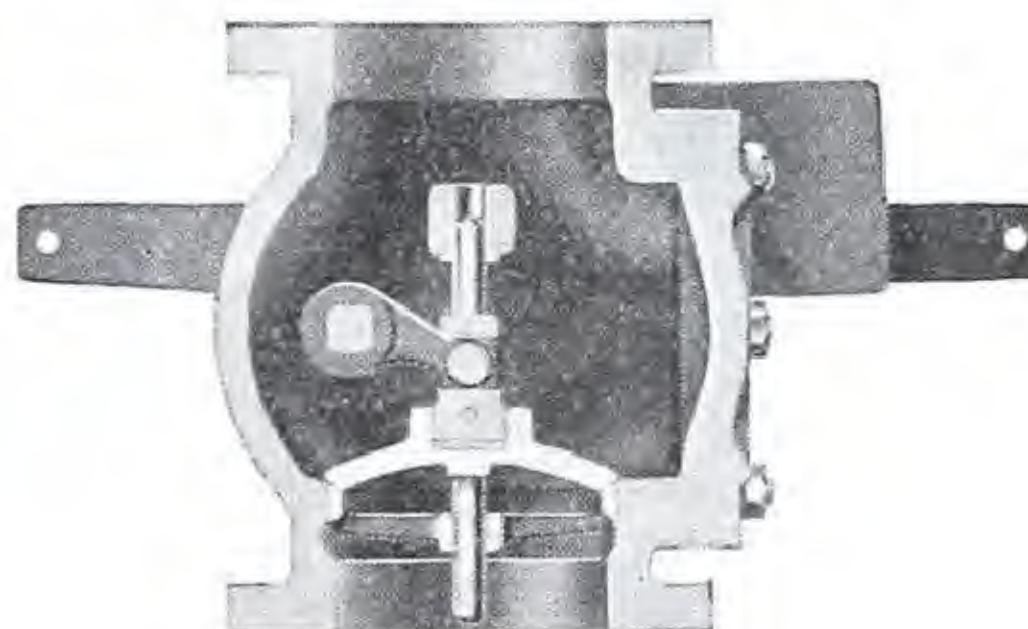


Fig. G-403—Vertical
Screwed or Flanged

Size inch	2	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	4	5	6	8	10	12	14	16
Globe or Vertical	\$11.00	13.00	15.00	19.00	22.50	33.50	43.00	85.00	120.00	180.00		
Screwed												
Flanged	12.75	15.00	17.50	22.00	26.00	37.00	47.00	90.00	130.00	200.00	350.00	475.00
Diam. of Flange	6"	7"	7 $\frac{1}{2}$ "	8 $\frac{1}{2}$ "	9"	10"	11"	13 $\frac{1}{2}$ "	16"	19"	21"	23 $\frac{1}{2}$ "

THOMAS ROBERTSON & COMPANY, LIMITED

Safety Valves

For Portable or Stationary Boilers



Fig. G-404
Top Outlet

For Saturated
Steam Working
Pressures up
to 200 lbs.

*Fitted with
lock-up arrangement,
if required.*



Fig. G-405
Side Outlet

Air Safety Valve



Fig. G-406
For use on Air receivers, etc

In ordering, state pressure at which valve is to be set.

Size, inches	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{3}{4}$	2
Fig. G-404-5-6—BRASS each	88.00	10.00	12.00	15.00	20.00	30.00	

For Low Pressure
Steam Boilers
For Pressures up to 10 lbs.

For Steam Pressures
up to 30 lbs.

In Two Weights
Up to 250 lbs. W. S. P.
or up to 400 lbs. W. S. P.



Fig. G-407
Iron Body, Brass Mounts



Fig. G-408
Screwed or Flanged

Iron
Body,
Brass
Mounts



Fig. G-409
Flanged only

In ordering, state pressure at which valve is to be set.

Size, inches	$\frac{1}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4
Fig. G-407—Iron Body, each	\$5.25	6.00	6.75	8.25	11.25	26.00	37.50	45.00	60.00
Fig. G-408—Screwed or Flanged				30.00	35.00	50.00	75.00	90.00	110.00
Fig. G-409—For 250 lbs. W.S.P., " " " 400 lbs. W.S.P.					35.00	55.00	75.00	90.00	110.00
					144.00	165.00	190.00	220.00	260.00

THOMAS ROBERTSON & COMPANY, LIMITED

Water Relief Valves

For Working Pressures up to 200 lbs.

For Closed Tanks and Pipe Lines and Hot Water Heating Boilers (to comply with Provincial Boiler Regulations).

Brass Relief Valve with Cap, for use on Oil or Gasoline lines.



Fig. G-410



Fig. G-411 With Easing Gear



Fig. G-412

For Hot Water Heating Boilers, the By-Law requires that Safety or Relief Valves must have half a square inch area for each Sq. Ft. of Grate Surface.

In ordering, state pressure at which valve is to be set.

Size, inches	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Fig. G-410—BRASS, each	\$4.75	6.00	7.50	9.50	11.25	15.00	37.50	45.00
Fig. G-411— " " " "	8.00	10.00	12.00	15.00	20.00	30.00	...	...
Fig. G-412— " " " "	5.75	7.25	9.00	11.50	13.50	18.00	45.00	54.00

For Steam, Air or Water

Relief Valves

Fig. G-413
Iron Body—Brass Mounts
For Pressures up to 200 lbs.



Fig. G-413

Fig. G-413 List Prices

Size, inches	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4
Screwed or Flanged	\$40.00	42.00	50.00	68.00	75.00

In ordering, state pressure at which valve is to be set.



Fig. G-414
Each, . . . \$7.00

Relief Valves - Brass

For Domestic Range Boilers, Hot & Cold Water Storage Tanks, Pressure Systems, etc.

Pressure & Vacuum Valve



Fig. G-415
Set at any Pressure Specified up to 125 lbs.

$\frac{1}{2}''$ x $\frac{1}{4}''$ \$2.00
 $\frac{1}{2}''$ x $\frac{1}{2}''$ \$4.00



Fig. G-416
Usually set at 30 lbs.
Inlet $\frac{1}{2}''$ I.P.S. or $\frac{1}{2}''$ F.T
Each \$5.70



Fig. G-417
Showing Vacuum Spindle & Phosphor Bronze Spring
Inlet $\frac{1}{2}''$ I.P.S. \$8.20

Vacuum Valve



Fig. G-418
For $\frac{1}{2}''$ or $\frac{3}{4}''$ I.P.
Each \$4.20

Fusible Plugs

Filled with Banca Tin

For Outside Insertion



Fig. G-419

For Inside Insertion



Fig. G-420

Size, inches	$\frac{1}{2}$	$\frac{1}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Each	\$1.20	1.50	2.00	3.00	4.00	6.00

Note: The small end of the tapered Banca Tin should be exposed to the fire.

Expansion Joints

For 125 lbs. Working Steam Pressure



Fig. G-421—Brass Standard Traverse



Fig. G-422—Iron Body, Brass Sleeve

Size, inches	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Fig. G-421—Brass, screwed Standard Traverse	\$1.50 $2''$	2.20 $2\frac{1}{4}''$	2.75 $2\frac{1}{4}''$	4.00 $2\frac{1}{4}''$	5.00 $2\frac{1}{4}''$	8.00 $2\frac{1}{2}''$	17.50 $2\frac{1}{2}''$	24.00 $2\frac{3}{4}''$

Size, inches	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	5	6	8	10	12
Fig. G-422 { Screwed Iron Body { Flanged Standard Traverse	\$7.00 15.00 $2\frac{1}{2}''$	8.00 16.00 $2\frac{1}{2}''$	10.00 18.50 $2\frac{1}{4}''$	14.00 25.00 $3''$	18.00 30.00 $3\frac{1}{4}''$	38.00 48.00 4"	45.00 55.00 5"	100.00 110.00 7"	160.00 175.00 7"	225.00 250.00 8"

Also Supplied with Special Traverse (Brass, up to 12"; Iron Body, up to 18")

Prices on application.

Steam Swing Joints

Brass—for 125 lbs. W. S. P.



Fig. G-423

Babbitt Adjustable Sprocket Rim With Chain Guide

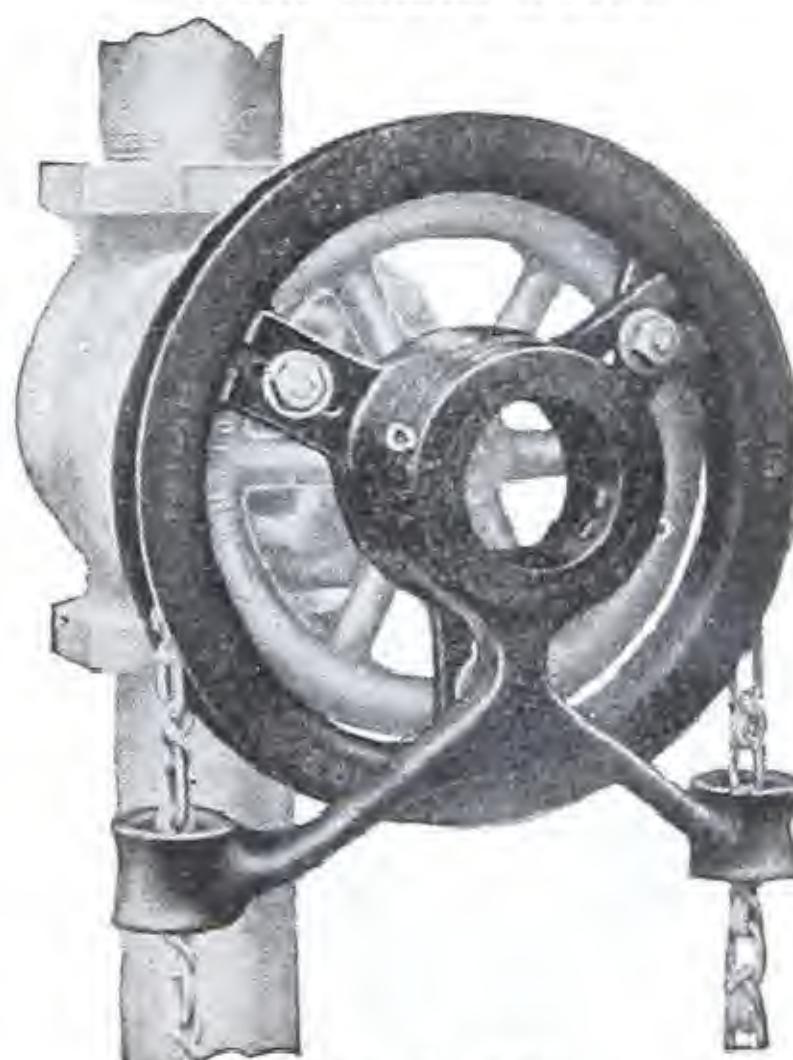


Fig. G-424

Details and Prices on application

Size, ins.	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Each	\$1.90	2.20	2.50	3.50	5.00	6.50	9.00	13.00

Pressure Reducing Valves

For Initial Steam Pressure up to 250 lbs. and Reduced Pressures above 10 lbs.



Fig. G-425—With Unions

All Brass

To ensure satisfactory results we strongly recommend that the Special Strainer Fig. G-430 be used in all installations.

Detailed information regarding installation and maintenance will be furnished, if required.



Fig. G-426—Lockshield Pattern

Size, inches	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Fig. 425-426 With Unions or Flanged, each	\$40.00	40.00	48.75	62.50	77.50	97.50

Always specify initial or Boiler pressure and required reduced pressure.



Fig. G-427

Iron Body — Brass Mounts

Fitted with Lockshield (as Fig. G-426) if preferred

Size, inches	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	5	6
Each	\$120.00	152.50	180.00	210.00	285.00	380.00

See Fig. G-430 for the Special Strainer which should be used on all installations

Detailed information regarding installation and maintenance will be furnished, if desired.

Always specify initial or Boiler pressure and required reduced pressure.

Pressure Reducing Valves

For Low Pressure Heating Systems

For Vacuum Pressure Heating



Fig. G-428



Fig. G-429 (Type 1.O.)

Fig. G-428—For Reduced Pressures 0-80 lbs. Sizes up to 2" are screwed and over 2" have standard flanges for initial pressures up to 125 lbs.

Also supplied with extra heavy diameter flanges for pressures over 125 lbs.

Fig. G-429—(Type "S.T.") for initial pressure 125 lbs. and reduced pressure 20 lbs. in 4 lbs. per square inch. Sizes up to 2" screwed, over 2" flanged.

Fig. G-429—(Type "1.O.") for initial pressure 125 lbs. and reduced pressure down to 8 pounds per square inch. Sizes up to 2" x 4" have small ends screwed.

Size, inches	1	1½	2½	2	2½	3	3½	4	5	6
Fig. G-428 Standard Ex. H.S. Flanged	335 (4)	45 (5)	45 (5)	55 (6)	65 (7)	90 (9)	115 (10)	115 (10)	180 (16)	180 (16)
Fig. G-429 (Type "S.T.")	32 (3)	45 (5)	45 (5)	55 (6)	62 (6)	55 (6)	70 (6)	70 (6)	100 (10)	100 (10)

Inlet & Outlet, inches	1x2	1½x2½	1½x3	2x4	2½x5	3x6	4x6	Extr	5x10	6x12
Fig. G-429 (Type "1.O.")	35 (4)	45 (5)	47 (5)	45 (5)	47 (5)	51 (6)	57 (6)	59 (6)	100 (10)	100 (10)

Strainers for Reducing Valves, Pipe Lines, etc.

The volume of Steam or Air is not reduced with this type of Strainer and it is easily cleaned without being removed.

The Strainer should always be installed with the top down, as shown.

Size, inches	1	1½	2	2½	3	3½	4
Brass, screwed	62 (4)	3 (6)	3 (6)	3 (6)	5 (8)	7 (10)	10 (13)

Size, inches	2½	3	3½	4	5	6
Iron Body, flanged	828 (86)	56 (102)	45 (80)	50 (80)	72 (80)	94 (10)



Fig. G-430

“Mueller” Reducing & Regulating Valves

For Cold Water

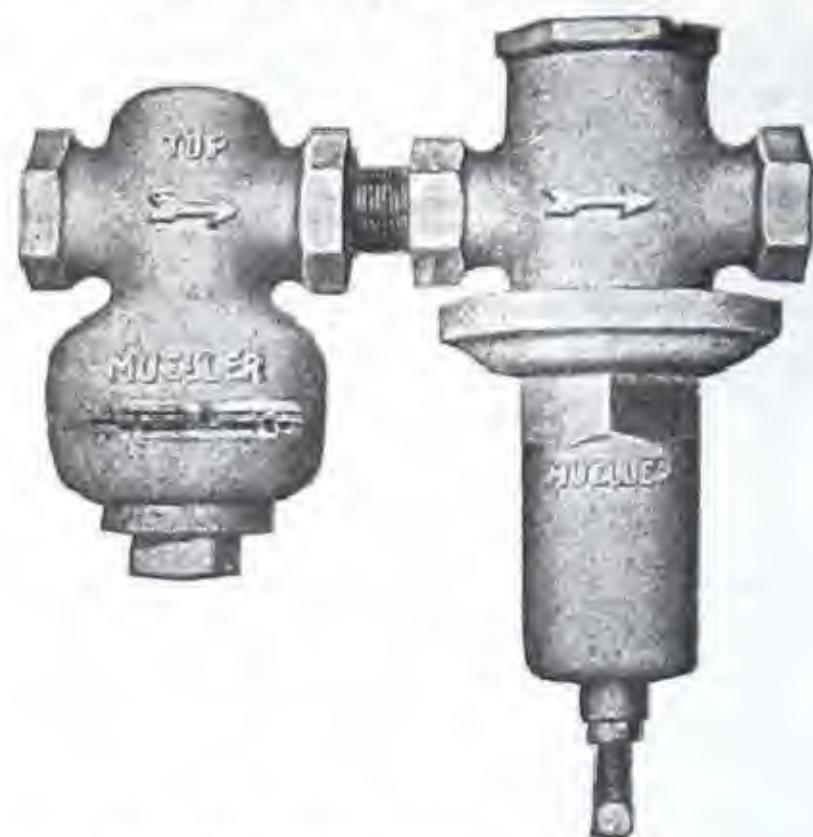


Fig. G-431—With Strainer
All Brass

For Hot Water; Steam & Oil; Air & Gas



We strongly recommend the use of the Strainer in all cases.

Fig. G-432—With Strainer
All Brass or Iron Body (See below)

Any Regulator under certain conditions acts as a Check Valve. A reliable Relief Valve should also be installed where the building up of the pressure is to be avoided.

Fig. G-431—For initial pressure up to 225 lbs. and delivery pressure 20 lbs. to 75 lbs. (or 5-20 lbs. if specially ordered).

Fig. G-432—For HOT WATER. In three weights, (A) Light type for initial pressure up to 225 lbs and delivery pressure 5 lbs. to 25 lbs. (B) Heavy type for initial pressure of 225 lbs. to 400 lbs. and delivery pressure 5 lbs. to 225 lbs. Sizes up to 1" are all Brass and sizes 1½" to 2" are Iron Body. (C) Extra Heavy type for initial pressure of 400 lbs. to 1000 lbs. and delivery pressure 50 lbs. to 300 lbs. Made of Brass in all sizes.

For STEAM and OIL. For initial pressure up to 225 lbs. and delivery pressure 5 lbs. to 125 lbs. Made of Iron with Brass mounts.

For AIR and GAS (natural or artificial). For initial pressure up to 225 lbs. and delivery pressure 5 lbs. to 125 lbs. Made of Iron with Brass mounts. Sizes up to 1" are also made in all Brass for initial pressure 400-500 lbs. to reduce down to 5-200 lbs. delivery pressure.

Size, inches	1/4	5/8	1/2	3/4	1	1 1/4	1 1/2	2
Fig. G-431—With Strainer	\$12.48	18.72	18.72	20.10	31.50	83.30	111.60	161.10
Less "		14.98	15.90	24.00	70.70	89.70	129.28	
Fig. G-432—With Strainer	18.28	18.28	19.52	20.72	32.46	53.00	67.00	97.00

In ordering or asking for prices on valves please give the following information; Highest and lowest initial pressure in pounds; required low or delivery, pressure; size of valve desired, and if possible approximate quantity or volume to be used per minute.

**Always state whether Valve is required for Cold Water or Hot Water,
Steam or Oil, Air or Gas.**



Fig. G-433



Fig. G-434
Type No. 30



Fig. G-435
Type No. 31.

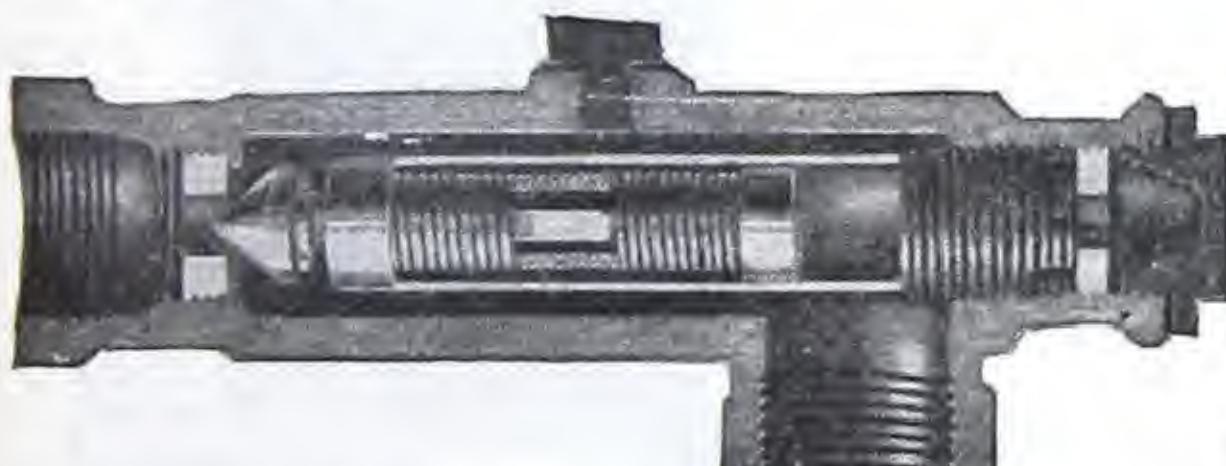


Fig. G-437—(Type No. 7)

ADJUSTABLE THERMOSTATIC STEAM TRAP

Diam. Pipe Connection, inches	1/2	3/4	1	1 1/4	1 1/2	2
For Pressures 100-200 lbs. each	\$10.00	13.45	15.60	37.00	44.85	62.80

Sizes 1 1/4" and larger have flanged connections

Particulars of other "SARCO" specialities furnished on request

Steam Traps

"NASON" PATTERN

To remove the condensation water from steam pipes and discharge at atmospheric pressure

Size number	1	2	3	4	5
Size of Pipe Connection, inches	1/2	3/4	1	1 1/4	1 1/2
Drainage Sq. Ft. of Surface	350	900	1400	2000	3500
Capacity Lin'l Ft. of 1" Pipe	1050	2700	4200	6000	10500
Outside Diam. of Flanges, ins.	11	14	15 1/2	18 1/2	24
List Prices each	\$16.00	20.00	27.50	42.50	70.00

Nos. 1, 2 and 3 Steam Traps for 100 pounds working pressure

Nos. 4 and 5 Steam Traps for 150 pounds working pressure

"Armstrong" Trap

Will not air bind. Self-cleaning. Quick-acting
Small size. Large capacity.

The "Armstrong" Trap operates by the rise and fall of an **Inverted Submerged Bucket**

The outlet of the Trap is at the Top.

Size Number	30	31	2	3	4
Diam. Pipe connection	1/2"	1/2"	1-3/4"	1-1 1/4"	1 1/2-2"
Diam. & Height, ins..	5 1/4 x 4 1/4	5 1/4 x 6 1/4	5 1/4 x 6 1/4	6 1/4 x 10	8 1/2 x 14
Max. Pressure, pounds	100	150	300	300	300
Price each	\$13.35	22.00	30.65	56.00	80.65

Drainage capacity according to pressure
When ordering state maximum operating pressure.



Fig. G-436
Type Nos. 2-3-4

"Sarco" Trap

This Trap is constructed on a new principle, and relies on the expansion of a liquid which ensures positive action.

It consists of a steam pipe body, which can be screwed on anywhere in a steam main or branch pipe, occupying very little space.

Automatic Water Feeders

For Low Pressure Steam Boilers

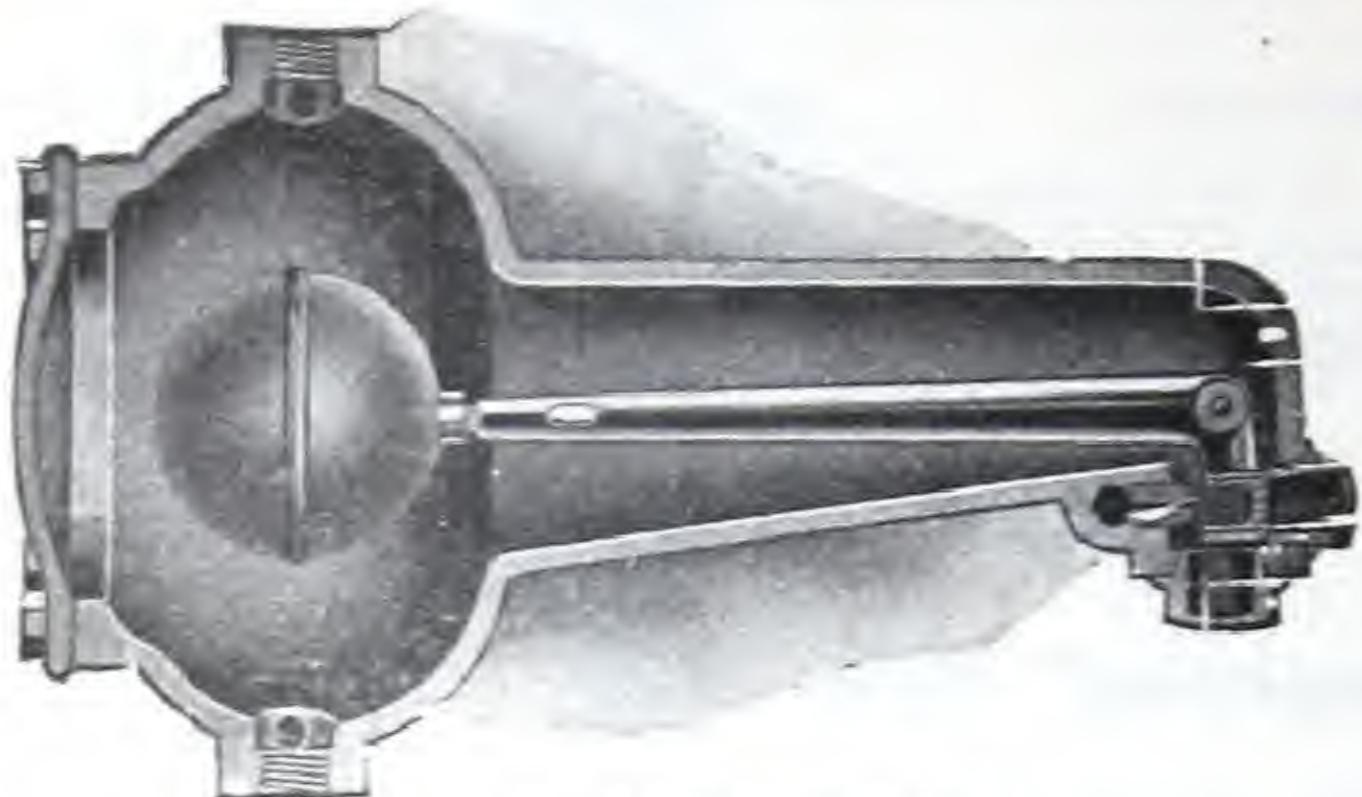


Fig. G-438—Section

Boiler Connections 1 in.—Feed Water Inlet $\frac{1}{2}$ in.—Water Gauge Connections $\frac{1}{2}$ in.
Price without Water Gauge, \$50.00. Price with Water Gauge, etc. On application.

This Feeder is tested to 50 lbs. It is designed for Steam Pressures not exceeding 20 lbs., and Water Pressures not exceeding 40 lbs. To ensure a positive feed, the Water Pressure should exceed the Steam Pressure by at least 10 lbs. In cases where the Water Pressure is higher than this range, a Pressure Regulating Valve should be used.

The "Kieley-Mueller" Water-Feeder is used for automatically maintaining the Water Line in Heating Boilers where very little make-up water is required.

Also suitable for Receiving Tanks, Feed Water Heaters, etc., where a constant liquid level is desired.

For Steam Pressures up to 50 lbs. and
Water Pressures up to 100 lbs.

Also suitable for lower pressures provided the water pressure is 10-15 lbs. higher than the pressure against which they feed.

Cast Iron Body, Brass Internal Parts.

Seamless Copper Float, Strainer on Feeder.

Height, centre of feed to top $7\frac{1}{2}$ " Diameter at base $6\frac{1}{8}$ "

Pipe size $\frac{1}{2}$ " . . . Price \$30.00

This Feeder is designed for conditions found in Low Pressure Steam installations, where practically all the condensation returns to the Boiler by gravity.

The operation is entirely automatic and dependable. It ensures at all times a proper Water Supply and a permanent Water Level in the Boiler.

Length 23"

Height $11\frac{1}{4}$ "

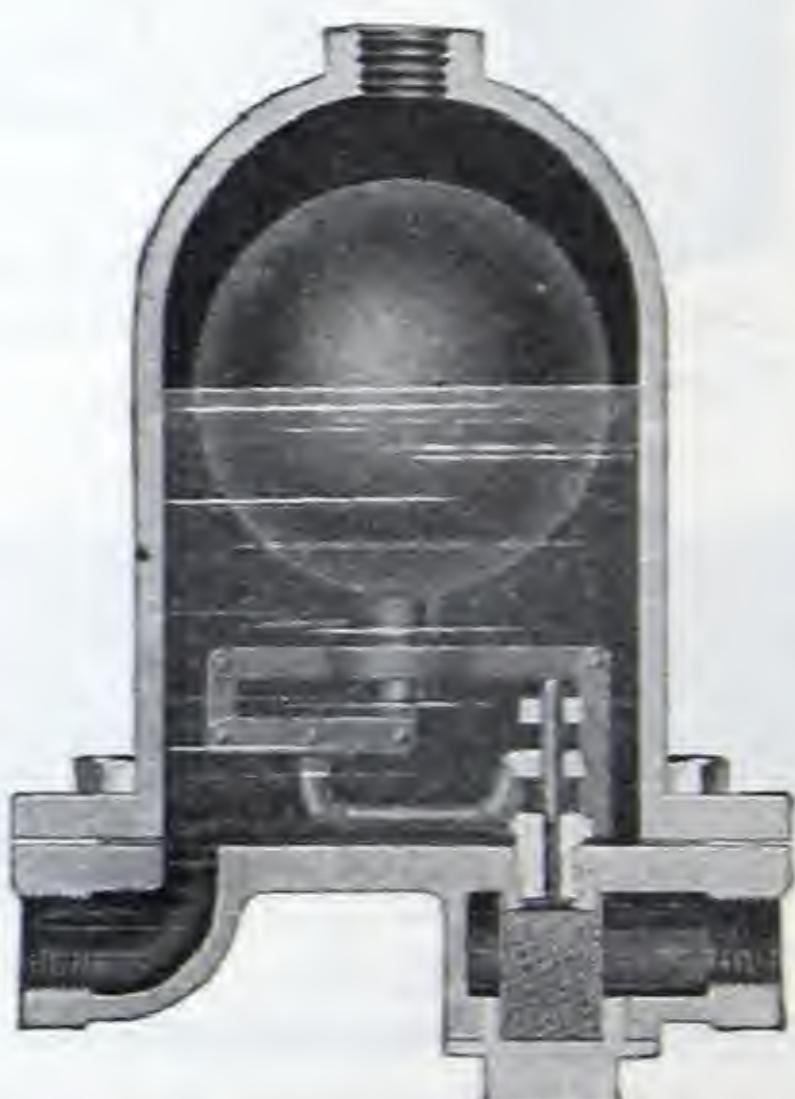


Fig. G-439

When ordering, please state Steam Pressure and Water Pressure, service required, and approximate percentage of Condensation returned to Boiler.

Automatic Control for Hot Water Heating

No Expansion Tank required

Fig. G-440 — "EMCO" Automatic Pressure Control is a combination Regulator, Relief Valve, By-pass Valve and Strainer. The By-pass is for quick filling of the system. The Regulator maintains a minimum pressure of 10 lbs. within the System and the Relief Valve is set at 30 lbs. The Check Valve prevents siphonage of the Boiler and system.

Control with Stop and Check (as illustrated) \$30.00

Control with Stop and Check and with Gauge 32.00

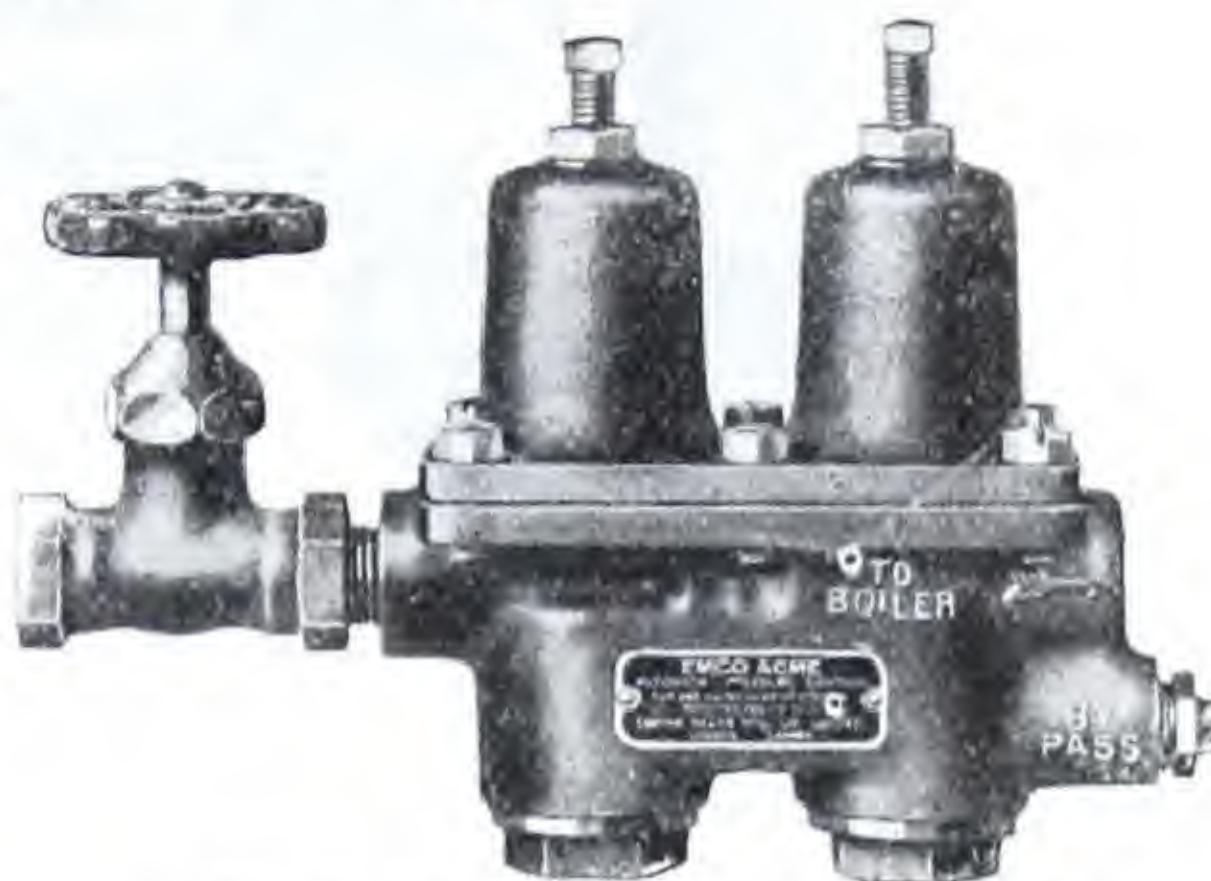


Fig. G-440—(With Stop and Check)

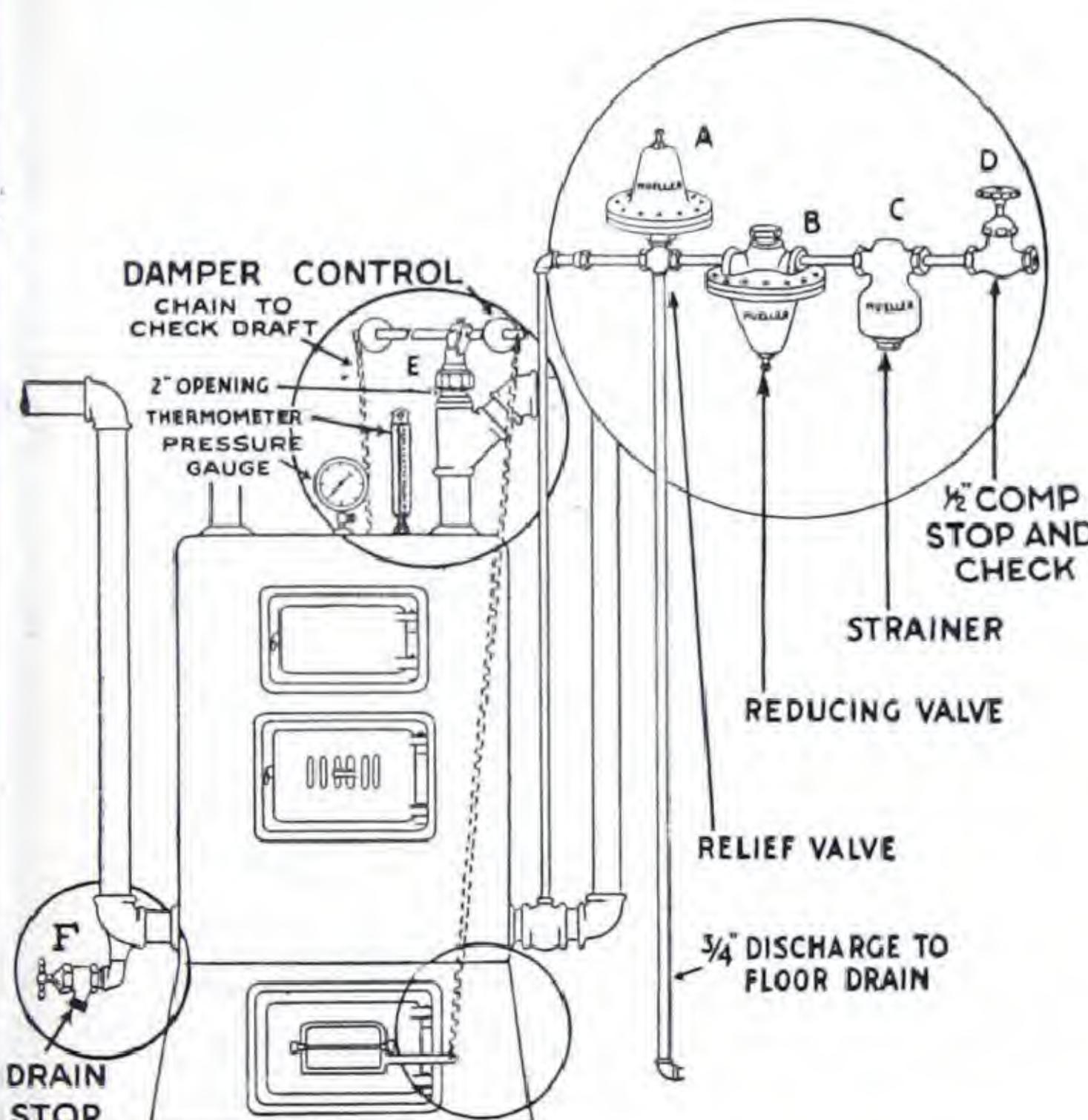


Fig. G-441—Showing a typical installation

Fig. G-441—"MUELLER" Hot Water Heat Control automatically controls the supply of water to the Boiler, exactly as necessary, and also replaces the small evaporation that occurs.

The illustration shows the different fittings supplied.

The check valve (D) prevents siphonage of the water from the Boiler if the main water supply is cut off, by accident or otherwise.

The Damper Control ensures uniformity of Temperature under all conditions.

Price of Complete fittings A, B, C and D with Pressure Gauge \$32.00

Price of complete fittings A, B, C and D with Damper Control, etc. .. 55.00

THOMAS ROBERTSON & COMPANY, LIMITED

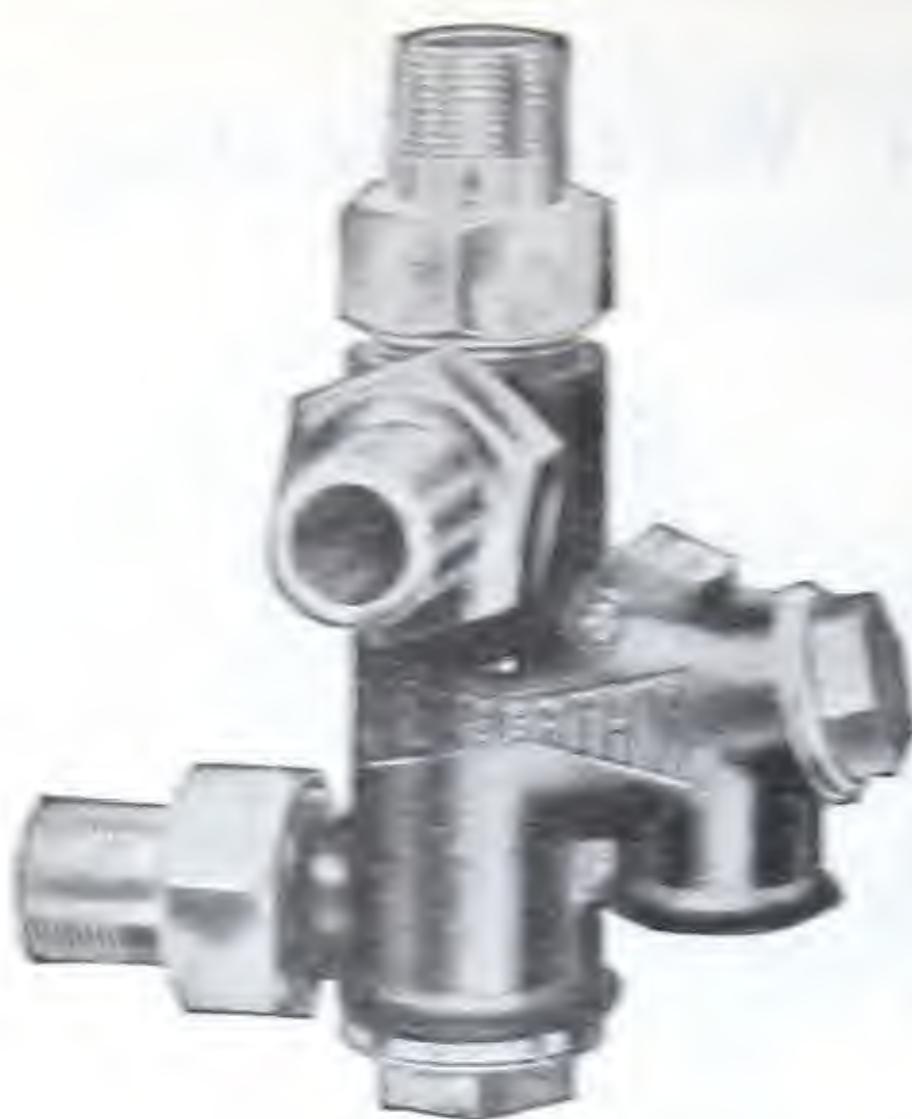


Fig. G-442

Penberthy Automatic Injector

Fig. G-442—Shows the stock pattern. (Suction at left, Overflow at front, Discharge at back) which is always supplied unless one of the alternative types is specified.

REPAIR PARTS



R—Steam Jet. V—Tall Pipe
S—Suction * X—Coupling Nut
Y—Delivery * Z—Overflow Cap
O—Plug P—* Valve
N—* Hinge

Fig. G-443

PRICE LIST—AUTOMATIC INJECTORS

Size	Price	Horse Power Based on Or- dinary Tab. Boiler		Horse Power Based on 30 lbs. Water per H. P. per hour		Pipe Con- nection	Capacity per Hour, 1 to 3 feet lift, 60 to 120 lbs. Steam Pressure		
		1/2	1	1/2	1		Maximum Gallons	Minimum Gallons	
A-21	\$15.00	1/2	1/2	6	8	1/2	60	25	
B-21	16.00	1/2	1/2	8	12	1/2	80	45	
A-22	18.00	1/2	1/2	10	15	1/2	125	70	
B-22	20.00	1/2	1/2	12	30	1/2	180	100	
B-23	25.00	1/2	1/2	22	32	1/2	260	140	
B-24	30.00	1/2	1/2	32	40	1/2	360	180	
C-23	35.00	1/2	1/2	32	45	1/2	475	250	
CC-23	45.00	1/2	1/2	32	60	1/2	500	275	
D-22	55.00	1/2	1/2	100	135	1/2	800	425	
DE-21	60.00	1/2	1/2	125	165	1/2	1,000	525	
DE-22	75.00	1/2	1/2	180	235	1/2	1,400	725	
ED-21	90.00	1/2	1/2	225	320	1/2	1,900	850	
ED-22	110.00	1/2	1/2	320	400	1/2	2,400	1,275	
FE-22	125.00	1/2	1/2	400	500	1/2	3,000	1,500	
GG-21	200.00	1/2	1/2	600	750	1/2	4,200	2,150	

PRICE LIST OF REPAIR PARTS

Size Injector	G or 1/2	A or 1/2	B or 1/2	C or OC	D or DD	E	EE	F	FF	GG	
R—Steam Jet	\$0.25	\$0.35	\$0.45	\$0.55	\$0.65	\$0.75	\$0.75	\$0.85	\$1.00	\$2.00	
S—Suction Jet	1.25	1.35	1.45	1.55	1.65	1.75	1.75	1.85	1.95	3.00	
Y—Delivery Jet	2.25	2.35	2.45	2.55	2.65	2.75	2.75	2.85	2.95	4.00	
X—Coupling Nut	2.25	2.35	2.45	2.55	2.65	2.75	2.75	2.85	2.95	4.00	
V—Tall Pipe	2.25	2.35	2.45	2.55	2.65	2.75	2.75	2.85	2.95	4.00	
Z—Overflow Cap	3.00	4.00	5.00	6.00	7.00	8.00	8.00	9.00	10.00	12.00	
P—Overflow Valve	4.00	5.00	6.00	7.00	8.00	10.00	11.00	12.00	13.00	17.00	
N—Overflow Hinge	4.00	5.00	6.00	7.00	8.00	10.00	11.00	12.00	13.00	18.00	
O—Plug	4.00	5.00	6.00	7.00	8.00	10.00	11.00	12.00	13.00	18.00	
Fig. G-443 Strainer	4.00	4.50	5.00	5.50	6.00	7.00	7.00	8.00	9.00	12.00	

Penberthy "XL-96" Ejector

SYPHON OR STEAM JET PUMP



Fig. G-444

Lifts 22 to 25 feet. Elevates 25 to 100 feet, 30 to 100 lbs. pressure

PRICE LIST

Size Number	1	2	3	4	5	6	7*	8*	9*	10*
Price, all Brass . . . each	\$8 00	\$10 00	\$15 00	\$20 00	\$25 00	\$35 00	\$50 00	\$70 00	\$105 00	\$145 00
Price, Iron Body brass jets each	Made in all Sizes 1 to 4	Brass only		20 00	27 50	40 00	50 00	70 00	95 00	
Pipe Connection Steam	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	2	$2\frac{1}{2}$
Pipe Connection Suct. and Delivery	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4
Capacity Per Hour										
40 to 65 lbs. steam 3 feet lift gall.	240	500	840	1,350	1,950	3,500	5,700	9,500	13,600	18,400
20 to 40 lbs. or 65 to 100 lbs. gall.	235	450	700	1,300	1,850	3,000	4,350	8,160	12,400	17,100
40 to 65 lbs., 50 feet elevation gall.	120	250	420	650	975	1,750	2,500	4,750	6,800	9,200
40 to 65 lbs., 25 feet elevation gall.	180	375	625	950	1,450	2,600	3,750	7,200	10,200	13,800
Vertical Lift										
40 to 75 lbs. steam, feet	23	25	25	25	25	25	25	25	25	25
25 to 40 or 75 to 100 lbs. feet	20	22	22	22	22	22	22	22	22	22

*Unless ordered in all Brass, Sizes 7, 8, 9 and 10 will be supplied in Iron Body, Brass Jets and Steam Connection.

Sizes 5 and 6 will be supplied in Brass unless ordered in Iron.

When ordering Ejectors specify size number.

In ordering by size of connection specify suction and discharge, not steam connection.

When Ejector is lifting 10 feet or over, we advise that the suction pipe be one size larger than the suction connection of Ejector, enlarging close to Ejector. A foot valve should also be used on deep lifts.

When Ejector is elevating more than 20 feet, the discharge pipe should be one size larger than coupling on Ejector, enlarging close to Ejector.



Fig. G-445
Brass Strainer
For Prices, see page 152

THOMAS ROBERTSON & COMPANY, LIMITED

Gauges

FOR PRESSURE
For Water, Steam, Air, Oil or Brine



Fig. G-446

A Syphon (filled with water) must be fixed between Gauge and Steam line when a Gauge is used for measuring Steam Pressure.

VACUUM



Fig. G-447

Diam. of Dial inches	2½	3½	5	6	6½	8½	10	12
Fig. G-446-7—Iron Case, Brass Ring.....	\$6.00	7.00	8.00	13.00	16.00	22.00	32.00	50.00
Brass Case.....	8.00	9.00	11.00	16.00	20.00	30.00	40.00	75.00

STANDARD GRADUATIONS (Pressure) 30 lbs. 60 lbs. 100 lbs. 160 lbs. 200 lbs. 250 lbs. 300 lbs. 500 lbs.

IMPORTANT—To obtain the best results the total graduation on the dial should be about twice the working pressure (for Pressure Gauges).

HYDRAULIC

VACUUM AND STEAM PRESSURE

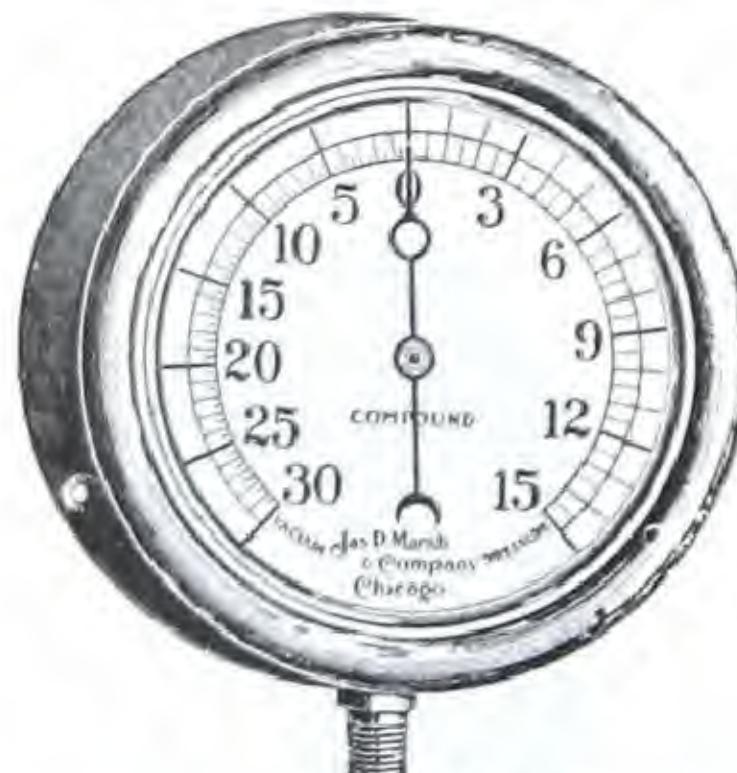


Fig. G-448

Fig. G-448—
graduated 0-30"
or 0-15" Vacuum
and 0-15 lbs or
0-300 lbs. pressure



Fig. G-449

Diam. Dial, inches	4½	5	6	6½	8½	10	12	GRADUATIONS
Fig. G-448—I.C.B.R. Brass Case.....	12.00	14.00	16.00	20.00	30.00	40.00	60.00	0-1000; 0-2000;
Fig. G-449—I.C.B.R. Brass Case.....	30.00	35.00	50.00	70.00	90.00	110.00	125.00	0-5000; 0-10000; 0-15000; 0-20000

Gauges

ALTITUDE

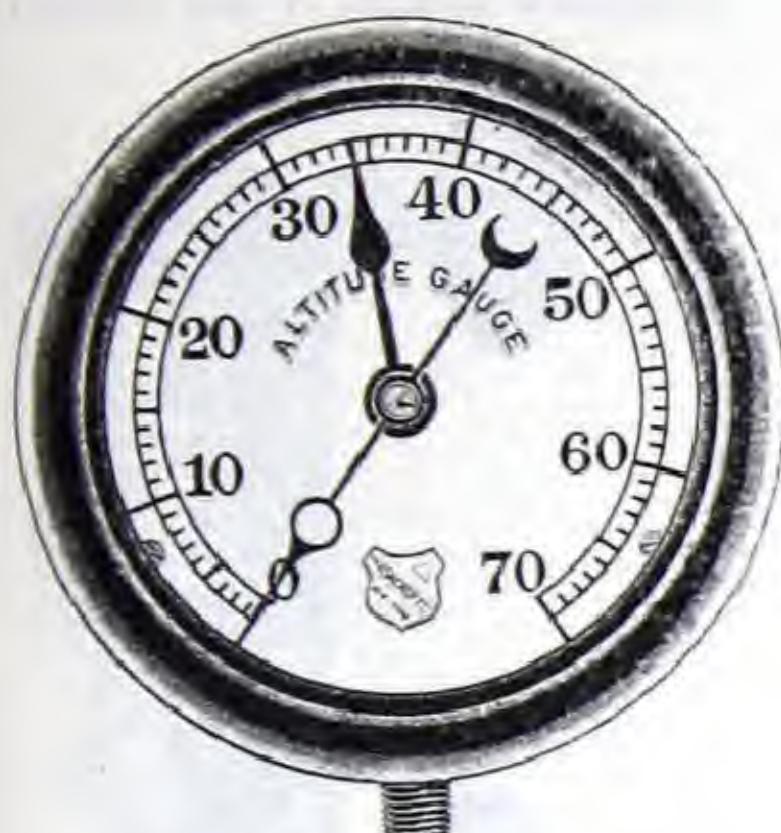


Fig. G-450

WATER PRESSURE AND ALTITUDE



Fig. G-451

Fig. G-450—This Gauge indicates the height of water in tanks, reservoirs, stand pipes, heating systems, etc.

Fig. G-451—This Gauge indicates pressure in pounds per square inch, also height of water in feet.

Diam. Dial	inches	4 $\frac{1}{2}$	5	6	6 $\frac{3}{4}$	8 $\frac{1}{2}$	10	12
Fig. G-450-51—	Iron Case, Brass Ring....	12.00	12.00	16.00	20.00	30.00	40.00	60.00
	Brass Case.....	14.00	11.00	20.00	25.00	40.00	50.00	80.00

Hot Water Thermometers

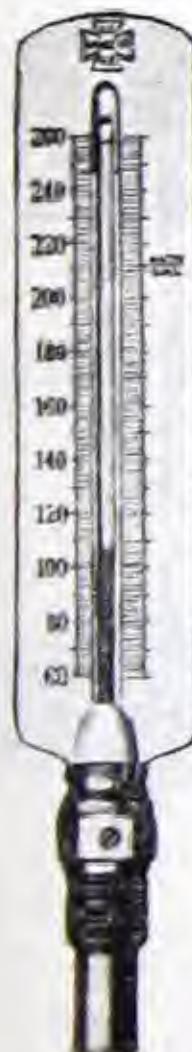


Fig. G-452
Straight



Fig. G-453
Angle

Fig. G-452-3
Straight..... \$2.00
Angle..... 2.50

Fig. G-454
Straight..... \$28.10
Angle..... 21.30



Fig. G-454—Dial Therm'r
Straight or Angle

Water Gauges

Nos. 1, 2, 2½ and 3
Brass, with Iron Wheel

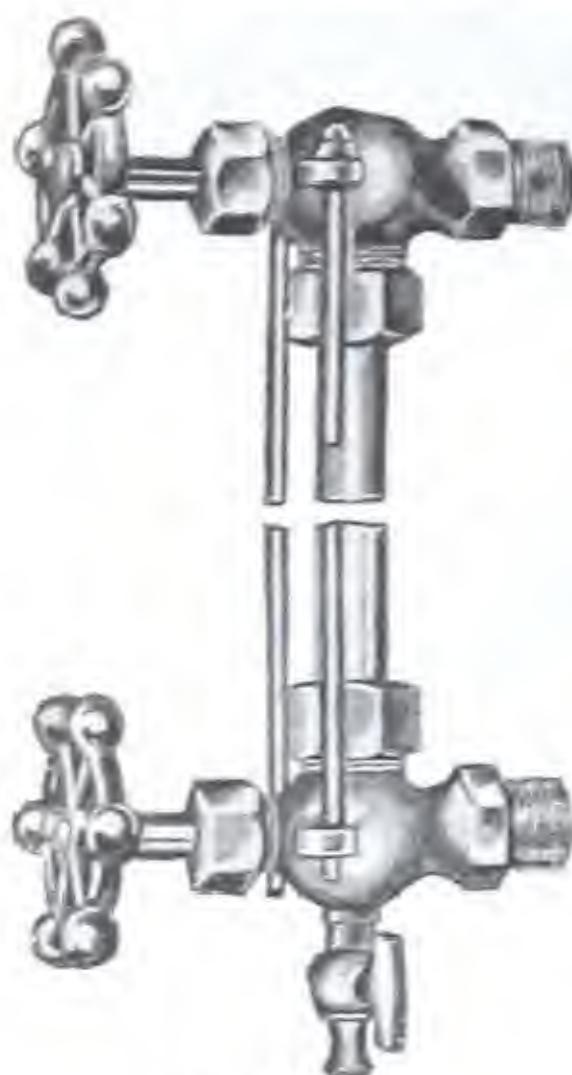


Fig. G-455

Nos. 4 and 5
Finished Brass, Wood Wheel

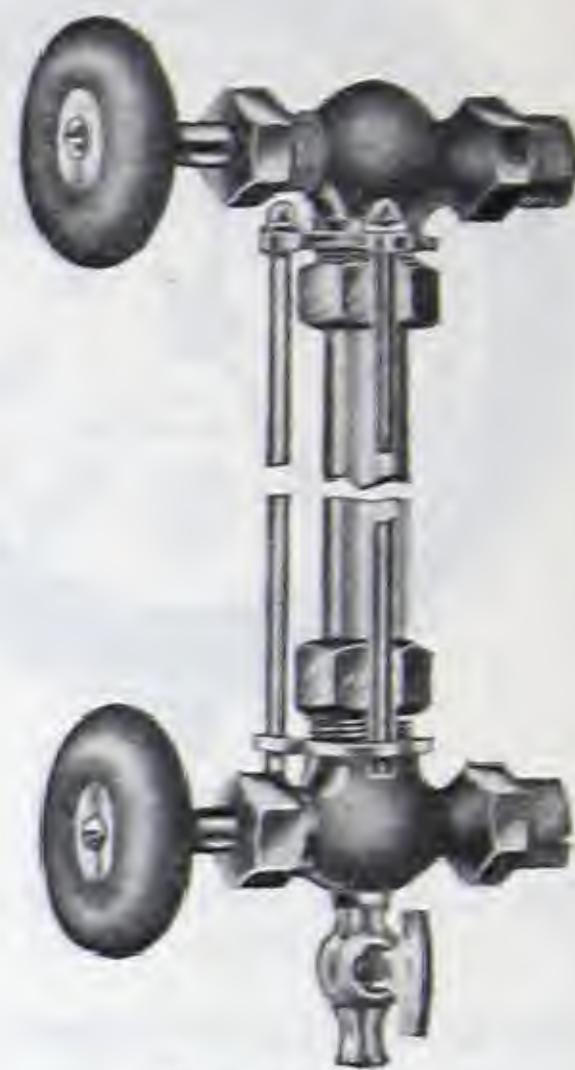


Fig. G-456

Figure No.	G-455 No. 1 Rough	G-455 No. 2 Rough	G-455 No. 2½ Rough	G-455 No. 3 Finished	G-456 No. 4 Finished	G-456 No. 5 Ex. Heavy
Type No.						
Description						
Iron Pipe Connection.....	1"	1½"	2"	2"	2½"	3"
Diameter of Glass.....	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"
Length of Glass.....	12"	12"	12"	12"	12"	16"
Centres Iron Pipe Connection.....	14"	14"	14"	14"	14"	18"
Price.....each	\$2.75	3.00	4.50	3.75	4.25	13.50

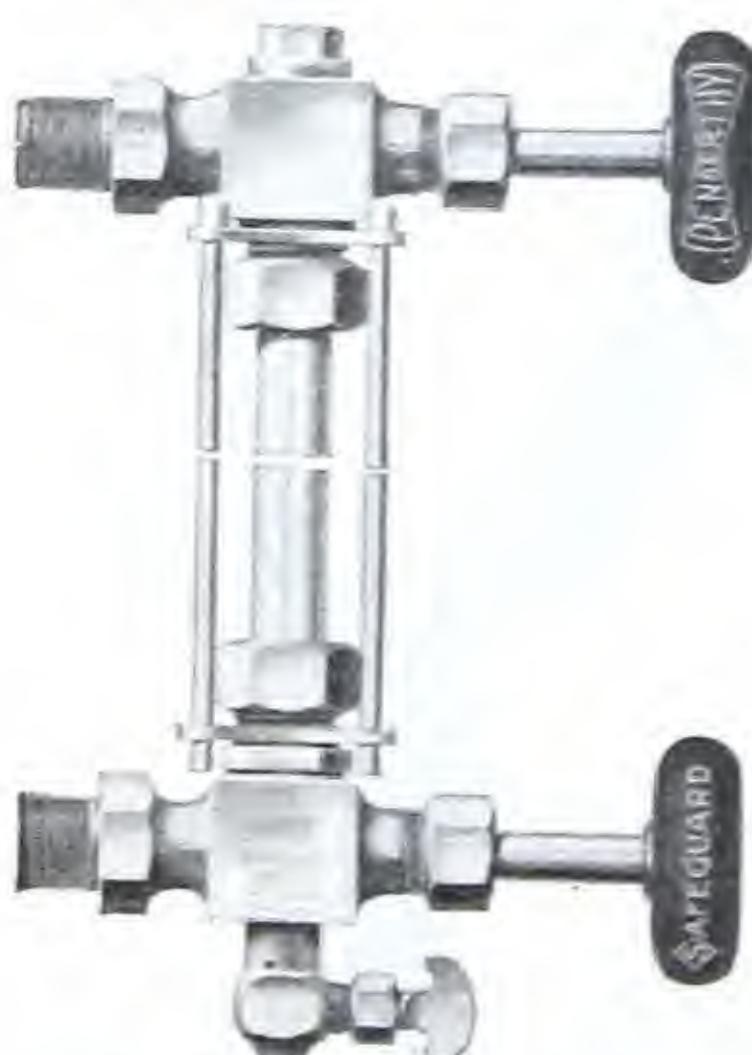


Fig. G-457

"Safeguard" Automatic

Water Gauge

Tested to 300 lbs. Operates on any pressure

Simple and strong construction

No springs or levers to get out of adjustment.

In the event of glass breaking the ball is automatically forced into seat, holding back the steam.

1" I. P. Connection

Diam. Glass 5/8"

Length Glass 14"

Price.....each \$19.20

Steam Gauge Syphons

Brass



Fig. G-458
Each \$4.60

Brass with Stop



Fig. G-459
Each \$5.50

Iron Pipe



Fig. G-460
Each \$0.40

WOOD HANDLE GAUGE COCKS Without Stuffing Box

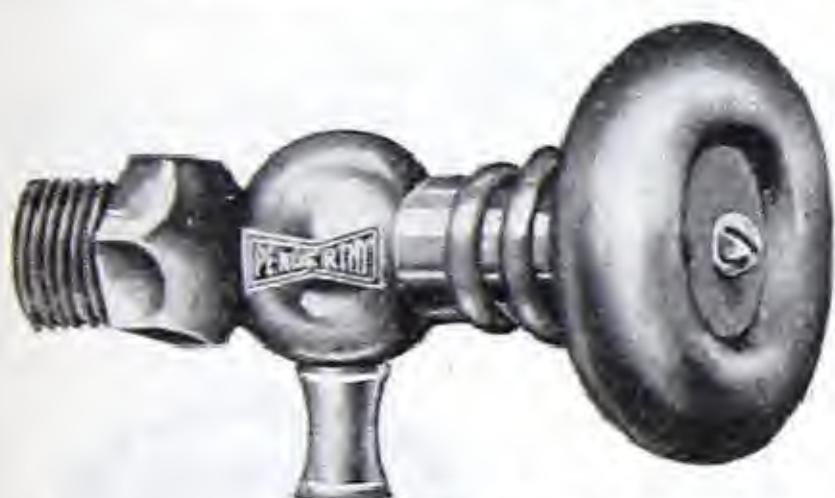


Fig. G-461

Rough Brass. $\frac{3}{8}''$ 0.75 $\frac{1}{2}''$ 0.85 $\frac{3}{4}''$ 0.95

WOOD HANDLE GAUGE COCKS With Stuffing Box



Fig. G-462

Rough Brass. $\frac{3}{8}''$ 0.90 $\frac{1}{2}''$ 0.95 $\frac{3}{4}''$ 1.20

WATER GAUGE COLUMNS



Fig. G-463

Nos.	1	2
Tapped.	$1''$	$1''$
Gauge Cock		
Tapping.	$\frac{3}{8}''$	$\frac{1}{2}''$
Water Gauge		
Tapping.	$\frac{1}{2}''$	$\frac{1}{2}''$
Centres for		
Gauge		
Connection.	$10''$	$12''$
Price, each.	\$2.75	4.00

Expansion Tank Mountings



Fig. G-464

With Gauge Glass

$\frac{1}{2}$ " x 12" and Washers

Pipe Connections

$\frac{1}{2}$ " and $\frac{3}{4}$ "

Size $\frac{1}{2}$ " $\frac{3}{4}$ "

Each \$1.60 1.60

BRASS PLATES



Fig. G-465

Size	$\frac{1}{4}$ "	$\frac{3}{8}$ "	$\frac{1}{2}$ "	$\frac{3}{4}$ "
Each	.22	.22	.30	.34

"Moncrieff" Gauge Glasses



Fig. G-464

Fig. G-466

Fig. G-466	External diam. in.	Length inches	10	11	12	13	14	15	16	17	18	20	24	30
			1.35	1.50	1.65	1.80	1.90	2.05	2.20	2.35	2.50	3.10	3.30	3.65
	$\frac{1}{2}$ "	per doz.	1.35	1.50	1.65	1.80	1.90	2.05	2.20	2.35	2.50	3.10	3.30	3.65
	$\frac{5}{8}$ "	" "	1.85	2.00	2.20	2.40	2.55	2.75	2.95	3.10	3.30	3.65	4.40	5.50
	$\frac{3}{4}$ "	" "	2.50	..	2.75	3.00	3.20	3.45	3.65	3.90	4.10	4.60	5.50	..

Perfect

Gauge Glass Washers

Red Fox



Size	inches	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1
Fig. G-467—per doz.	..	\$0.35	0.35	0.35	0.45
Fig. G-468— " "	..	0.30	0.30	0.30	..

Fig. G-467



Fig. G-468

Cylindrical

Glasses for Oilers

Flat



Fig. G-469

Diam. $1\frac{1}{4}$ " x $1\frac{1}{8}$ "	Length, ..	each	0.42
" $1\frac{1}{2}$ " x $1\frac{1}{8}$ "	"	"	0.48
" $1\frac{1}{4}$ " x $1\frac{1}{8}$ "	"	"	0.50
" 2 " x $1\frac{1}{8}$ "	"	"	0.52
" $2\frac{1}{4}$ " x $2\frac{1}{8}$ "	"	"	0.56
" $2\frac{1}{2}$ " x $2\frac{1}{8}$ "	"	"	0.72

Fig. G-470

Flat Glasses with 2 Gaskets

Fig. G-469

Price, per doz. Small \$1.80 Large \$2.10



Fig. G-470

“Polar” Sight Feed Lubricators



Fig. G-471—Single Connection

Adapted for Portable
and Traction Engines,
Hoisting Engines,
Steam Pumps, etc.

Specially designed for
Outdoor Service.

Work equally well in cold
or warm weather.



Fig. G-472—Double Connection

Prices, in Polished Brass

Capacity	½ Pint	½ Pint	1 Pint	1 Quart
Pipe thread	$\frac{3}{8}$ "	$\frac{3}{8}$ "	$\frac{1}{2}$ "	$\frac{1}{2}$ "
Fig. G-471	\$14.50	15.30	19.10	22.30
Fig. G-472	14.00	14.80	18.60	21.80

“Peerless” Sight Feed Lubricators



Fig. G-473—Single Connection

HIGHEST GRADE THROUGHOUT

Specially designed for Marine,
Stationary, and the Better Class
of Engines

Will feed heavy oils and work well
in cold weather

Pipe Thread $\frac{1}{2}$ "

Prices in Polished Brass

Capacity	½ Pint	½ Pint	1 Pint	1 Q't
Fig. G-473	\$23.40	24.90	30.90	37.10
Fig. G-474	22.70	24.20	30.20	36.40



Fig. G-474—Double Connection

“Swift” Sight Feed Lubricators

For Stationary Engines, Steam Pumps, Etc.



Fig. G-475—Class "G"
Single Connection



Fig. G-476—Class "F"
Single Connection



Fig. G-477—Class "F"
Double Connection

Capacity	1/4 Pint	1/3 Pint	1/2 Pint	1 Pint	1 1/2 Pint	1 Quart
Fig. G-475—Pipe Thread Finished Brass	1/4"	5/8"	3/4"	...	...	...
Fig. G-476—Pipe Thread Finished Brass	5/8"	11/16"	1 1/8"	1 1/2"	1 1/2"	1 1/2"
Fig. G-477—	7.00	7.50	8.00	12.00	13.50	15.00

Plain Cylinder Lubricators

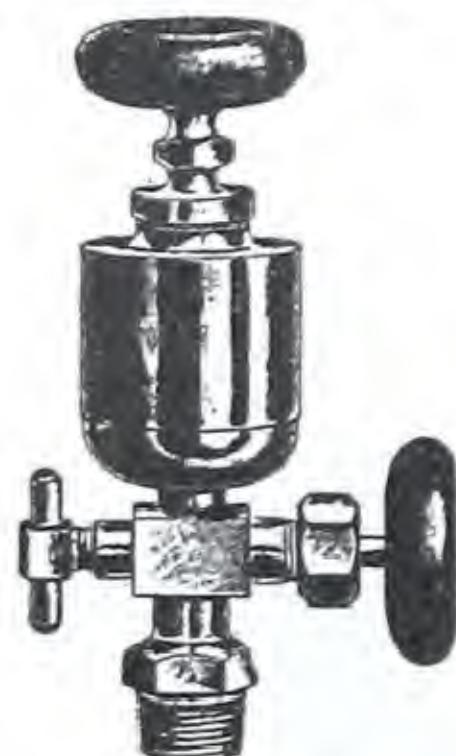


Fig. G-478

With Stop & Tube for
Traction & Stationary
Engines, Steam Pumps,
etc.

Fig. G-478

Prices, in Polished Brass

Diameter	1 1/2"	2"	2 1/2"	3"
Pipe thread	3/8"	1/2"	1 1/2"	3/4"
With Stop & Tube	\$3.40	3.90	4.75	5.75
Less " "	2.40	2.90	3.75	4.75

Fig. G-479—PLAIN Pattern

Oil Caps



Fig. G-479
Plain

(Also supplied
Elbow pattern.)

Diameter	3/4	5/8	1	1 1/8	1 1/4	1 1/2	1 3/4	2
Pipe Thread	1/8	1/8	1/4	1/4	1/4	3/8	3/8	1/2

Diameter	3/4	5/8	1	1 1/4	1 1/2	1 3/4	1 7/8	2
Pipe Thread	1/8	1/8	1/4	1/4	3/8	3/8	3/8	1/2

Diameter	3/4	5/8	1	1 1/4	1 1/2	1 3/4	1 7/8	2
Brass, each	\$0.30	0.35	0.40	0.50	0.60	0.90	1.25	1.75

Hand Cylinder Oil Pumps



Fig. G-480—Glass Body

Fig. G-480

Glass Body

Capacity . . .	$\frac{1}{4}$ pint	$\frac{1}{2}$ pint	1 pint	1 quart
I. P. thread . . .	$\frac{3}{8}''$	$\frac{3}{8}''$	$\frac{1}{2}''$	$\frac{1}{2}''$
Diam. Glass . . .	$2\frac{1}{2}''$	$3''$	$3\frac{1}{2}''$	$4\frac{1}{4}''$
Price, . . . each	\$15.00	17.00	20.00	30.00

Fig. G-481

Brass Body

Capacity . . .	$\frac{1}{4}$ Pint	$\frac{1}{2}$ pint	1 pint
I.P. thread . . .	$\frac{3}{8}''$	$\frac{3}{8}''$	$\frac{1}{2}''$
Price, . . . each	\$7.00	10.00	15.00

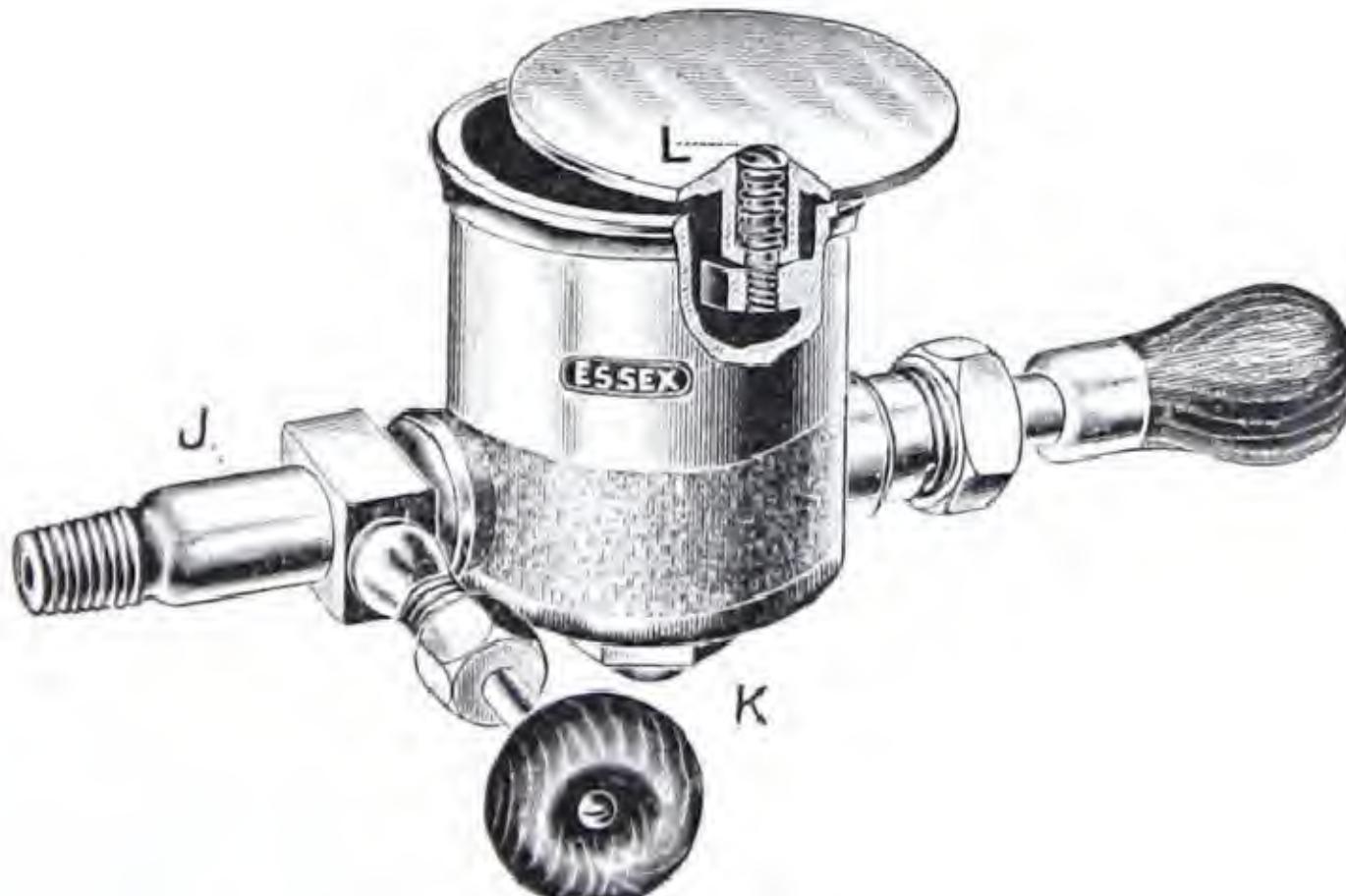


Fig. G-481

Brass Body (Reversible Shank)

THOMAS ROBERTSON & COMPANY, LIMITED

Oilers

"SALUTE"
SIGHT-FEED OILER
With Snap Lever and
Lock Nut



Fig. G-482

"SICO"
SNAP LEVER OILER
Similar to "Salute" but
Without Sight-Feed



Fig. G-483

Size Number	0	1	2	3	4	5	6	7
Outside Diameter of Glass.....inches	1 $\frac{1}{4}$	1 $\frac{1}{2}$	1 $\frac{3}{4}$	2	2 $\frac{1}{4}$	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$
Height of Glass....."	1 $\frac{1}{8}$	1 $\frac{3}{8}$	1 $\frac{5}{8}$	1 $\frac{7}{8}$	2 $\frac{1}{8}$	2 $\frac{3}{8}$	3	4
Capacity.....ounces	5 $\frac{5}{8}$	1	1 $\frac{1}{4}$	2 $\frac{1}{4}$	4	5	10	18
Pipe thread.....inches	1 $\frac{1}{8}$	1 $\frac{1}{4}$	1 $\frac{1}{2}$	1 $\frac{5}{8}$	2 $\frac{1}{8}$	3 $\frac{1}{8}$	4 $\frac{1}{2}$	4 $\frac{1}{2}$
Fig. G-482—"Salute".....each	\$3.00	3.25	3.50	3.75	4.25	5.25	7.25	9.25
Fig. G-483—"Sico"....."	1.75	2.00	2.50	3.00	3.90	4.75	7.00	9.80

"SANCHO"
SLIDE TOP OILER
With Sight Feed



Fig. G-484

"SULTAN"
GAS ENGINE OILER
Special Check Valve to
prevent Back Pressure



Fig. G-485

Size Number	0	1	2	3	3	4	5	6	7
Diameter of Glass.....inches	1 $\frac{1}{4}$	1 $\frac{1}{2}$	1 $\frac{3}{4}$	2	2	2 $\frac{1}{4}$	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$
Height of Glass....."	1 $\frac{1}{8}$	1 $\frac{3}{8}$	1 $\frac{5}{8}$	1 $\frac{7}{8}$	1 $\frac{7}{8}$	2 $\frac{1}{8}$	2 $\frac{3}{8}$	3	4
Capacity.....ounces	5 $\frac{5}{8}$	1	1 $\frac{1}{4}$	2 $\frac{1}{4}$	2 $\frac{1}{4}$	4	5	10	18
Pipe Thread.....inches	1 $\frac{1}{8}$	1 $\frac{1}{4}$	1 $\frac{1}{2}$	1 $\frac{5}{8}$	2 $\frac{1}{8}$	3 $\frac{1}{8}$	4 $\frac{1}{2}$	4 $\frac{1}{2}$	4 $\frac{1}{2}$
Fig. G-484—"Sancho".....each	\$1.25	1.50	1.75	2.40	2.80	2.55	3.15	4.35	5.65
Fig. G-485—"Sultan"....."			2.00		3.50	4.00	5.40	7.00	

All the above Oil Cups are supplied in Finished Brass

Grease Cups

“SAMSON”

Positive Screw Compression Feed



Fig. G-486

“SILEX”

Automatic Spring Compression



Fig. G-487

Supplied in
Finished
Brass

Size Number	0	1	2	3	4	5	6	7
Outside diameter.....inches	1 $\frac{3}{8}$	1 $\frac{5}{8}$	1 $\frac{7}{8}$	2 $\frac{1}{8}$	2 $\frac{1}{2}$	2 $\frac{3}{4}$	3 $\frac{1}{8}$	3 $\frac{5}{8}$
Pipe thread....."	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$
Capacity.....ounces	$\frac{1}{3}$	1	1 $\frac{1}{2}$	2 $\frac{1}{4}$	3 $\frac{1}{4}$	4 $\frac{1}{4}$	6	10
Fig. G-486—“Samson”.....each	\$1.00	1.20	1.60	1.80	2.00	2.40	2.80	4.00
Fig. G-487—“Silex”....."	1.50	2.00	2.50	2.85	3.20	3.75	4.30	6.00

STEEL GREASE CUP
Plain Compression



Fig. G-488

“SATURN” GREASE CUP
Plain Compression



Fig. G-489
Finished Brass

Size Number	000	00	0	1	2	3	4	Size Number	0	1	2	3	4	5
Diam. O.D.ins.	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	1 $\frac{3}{4}$	2 $\frac{1}{4}$	2 $\frac{3}{4}$	3 $\frac{1}{4}$	Diam. O.D.ins.	1 $\frac{1}{8}$	1 $\frac{3}{8}$	1 $\frac{1}{2}$	2	2 $\frac{1}{4}$	3 $\frac{1}{4}$
Pipe thread "	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{2}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{3}{8}$	Pipe thread "	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{1}{2}$
Capacity, Ounces	$\frac{1}{3}$	$\frac{2}{3}$	1	1 $\frac{1}{2}$	3	5	7	Capacity, Ounces	$\frac{1}{2}$	$\frac{2}{3}$	1	2	3 $\frac{1}{2}$	5
Price.....each	.08	.09	.12	.14	.22	.34	.48	Price.....each	.70	.90	1.15	1.50	2.15	2.90

Finished Brass Air Cocks



Fig. G-490
TEE HANDLE
Single Thread

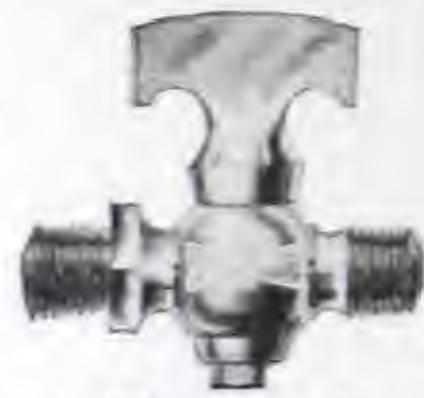


Fig. G-491
TEE HANDLE
Double Thread, Male

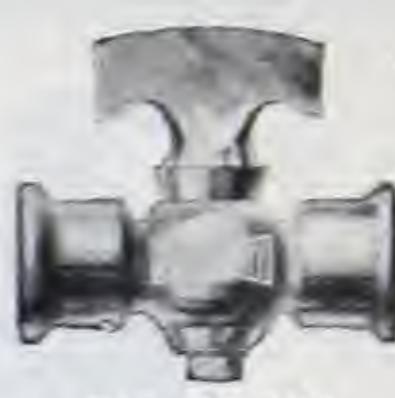


Fig. G-492
TEE HANDLE
Double Thread, Female

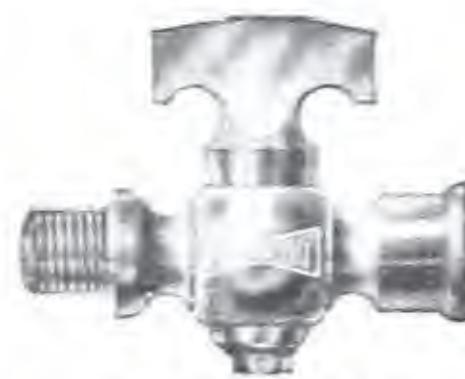


Fig. G-493
TEE HANDLE
Male and Female



Fig. G-494
LEVER HANDLE
Single Thread



Fig. G-495
LEVER HANDLE
Double Thread, Male



Fig. G-496
LEVER HANDLE
Double Thread, Female



Fig. G-497
LEVER HANDLE
Male and Female

Size				inches	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$
Fig. G-490	Tee Handle, Single Thread,			each	\$0.40	0.45	0.50	0.60
Fig. G-491	" "	Double "	Male	"	0.55	0.65	0.75	0.90
Fig. G-492	" "	" "	Female	"	0.65	0.70	0.85	...
Fig. G-493	" "	" "	M. and F.	"	0.75	0.80	0.90	...
Fig. G-494	Lever "	Single "		"	0.55	0.60	0.65	0.75
Fig. G-495	" "	Double "	Male	"	0.70	0.80	0.90	1.05
Fig. G-496	" "	" "	Female	"	0.80	0.85	1.00	...
Fig. G-497	" "	" "	M. and F.	"	0.90	0.95	1.05	...

THOMAS ROBERTSON & COMPANY, LIMITED

Finished Brass Air Cocks



Fig. G-498—LEVER HANDLE
Bent Nose, Single Thread



Fig. G-499—TEE HANDLE
Bent Nose, Single Thread

Size,.....	inches	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$
Fig. G-498—Lever Handle.....	each	\$0.85	0.95	1.05	1.15
Fig. G-499—Tee "	"	0.70	0.80	0.90	1.00

Also supplied with Screwed Nose, if desired

BRASS LEVER HANDLE
STRAIGHT STEAM GAUGE COCK
With Union

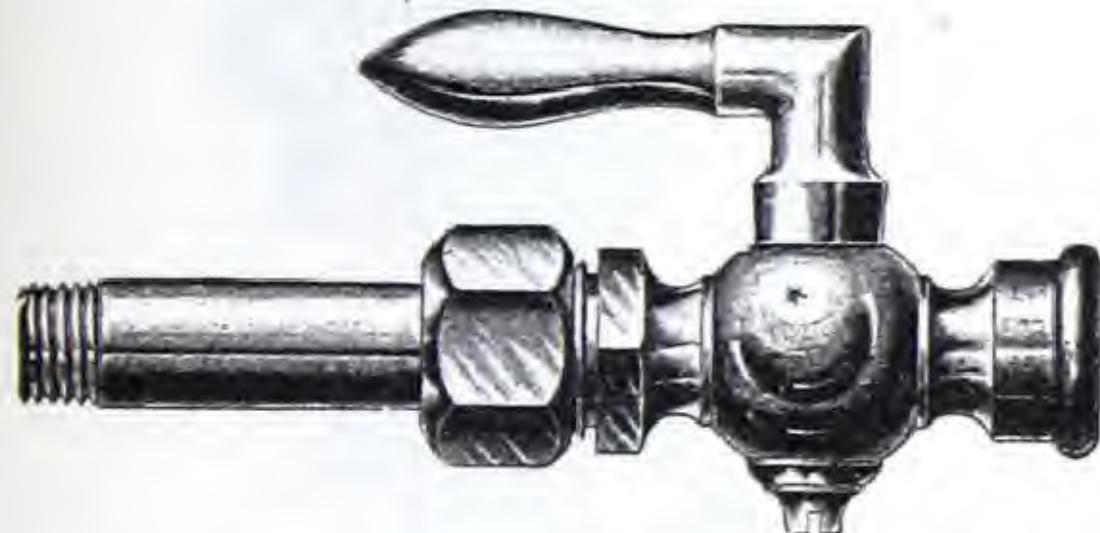


Fig. G-500

CYLINDER COCK
For Traction Engines

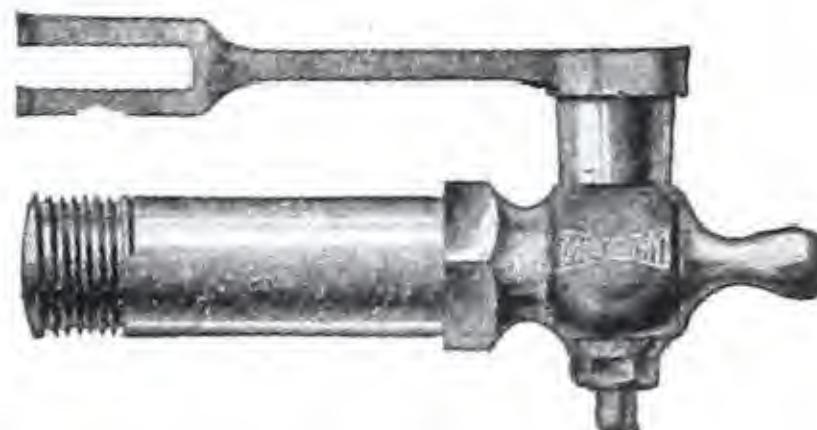


Fig. G-501

Size,.....	inches	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$
Fig. G-500—Lever Handle Gauge Cock.....	each	\$1.90	...	...
Fig. G-501—Traction Engine Cylinder Cock, Short.....	"	1.30	1.40	1.85
Shank, Right or Left Hand				



Fig. G-502—Straight

Priming Cups

Size Number.....	0	1
Diam. of Bowl.....	$\frac{3}{4}''$	$\frac{3}{4}''$
Pipe thread.....	$\frac{1}{8}''$	$\frac{1}{4}''$
Fig. G-502.....	each	\$0.85
Fig. G-503.....	"	1.00
		1.10



Fig. G-503—Elbow

Nickel-plated Brass Air Valves



Fig. G-504—Wood Wheel
Each $\frac{1}{2}''$ 0.24 $\frac{1}{4}''$ 0.30



Fig. G-505—Milled Wheel
Each $\frac{1}{2}''$ 0.28 $\frac{1}{4}''$ 0.34



Fig. G-506—Lockshield
Each $\frac{1}{2}''$ 0.24 $\frac{1}{4}''$ 0.30
Extra for Loose Keys, each .0.08



Fig. G-507
Jenkins' Automatic
 $\frac{1}{2}''$ or $\frac{1}{4}''$ each \$1.60



Fig. G-508
"ROYAL" Automatic
Each \$0.80



Fig. G-509
"AIRID" Automatic
Each \$2.80

Brass Steam Whistles

With Valve



Fig. G-510

Without Valve



Fig. G-511

Diameter Bell.....inches	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	4	5	6
Screwed I. P....."	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Fig. G-510.....each	\$4.00	5.50	6.50	8.50	11.50	15.00	22.50	33.00
Fig. G-511....."	3.00	4.35	5.25	7.25	9.50	12.00	19.00	24.00

For Prices of Whistle Valve only, see page 123

Brass Trip Gongs

Diam. inches	3	4	5	6	7	8	10	12
Price.....each.....	\$1.70	2.10	2.80	4.00	5.70	7.70	14.00	25.00



Fig. G-512

Brass Solderless Fittings

for Small Size Tubing



Fig. G-513—Two Tube Ends, Male Out



Fig. G-514—Three Tube Ends

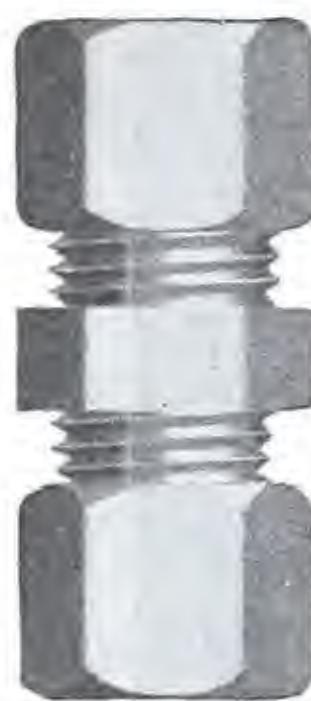


Fig. G-516—Union



Fig. G-515—Two Tube Connections and Male End



Fig. G-519—Connector Female Pipe Thread



Fig. G-517-518
Nut & Sleeve



List Prices

Size O.D. Tubing . .	$\frac{1}{4}''$	$\frac{5}{16}''$	$\frac{3}{8}''$	$\frac{1}{2}''$
" Iron Pipe Thr'd	$\frac{1}{8}''$	$\frac{1}{8}''$	$\frac{1}{4}''$	$\frac{3}{8}''$
Fig. G-513—Tee, each	.45	.50	.60	1.20
Fig. G-514—Tee "	.55	.60	.80	1.50
Fig. G-515—Tee, "	.45	.50	.60	1.20
Fig. G-516—Union"	.30	.35	.50	.90
Fig. G-517—Nut, "	.07	.07	.10	.20
Fig. G-518—Sleeve"	.05	.05	.10	.10
Fig. G-519—Connect.	.25	.30	.40	.70
Fig. G-520—Connect.	.18	.22	.30	.60
Fig. G-521—Elbow	.25	.30	.40	.75
Fig. G-522—Elbow	.35	.40	.50	1.00

Prices for other sizes on application.



Fig. G-521
Male Pipe Thread



Fig. G-522
Double End Elbow

Cast Iron Soil Pipe & Fittings



Fig. G-523 Single Hub Pipe



Fig. G-524 Double Hub Pipe



Fig. G-525
 $\frac{1}{4}$ Bend



Fig. G-526
1-5 Bend



Fig. G-527
 $\frac{1}{6}$ Bend



Fig. G-528
 $\frac{1}{8}$ Bend



Fig. G-529
1-12 Bend



Fig. G-530
 $\frac{1}{16}$ Bend

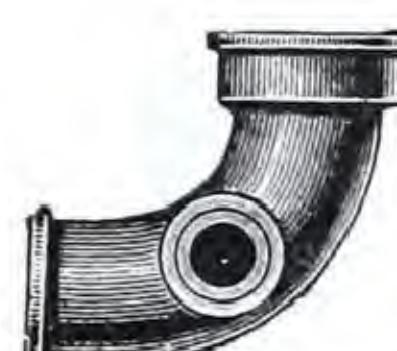


Fig. G-531
 $\frac{1}{4}$ Bend
Inlet Right Hand



Fig. G-532
 $\frac{1}{4}$ Bend
Inlet Left Hand

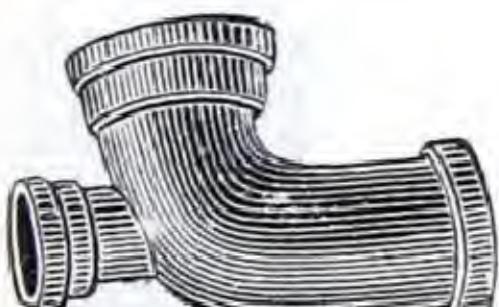


Fig. G-533
 $\frac{1}{4}$ Bend
Inlet on Heel



Fig. G-534
Double Hub
 $\frac{1}{4}$ Bend



Fig. G-535
Long $\frac{1}{4}$ Bend

Price List will be found on Pages 174-177.

Cast Iron Soil Pipe & Fittings (*continued*)

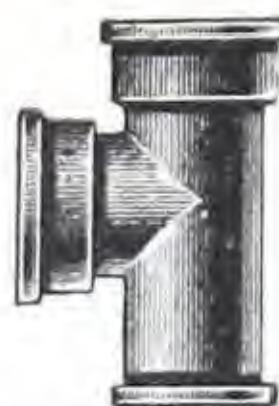


Fig. G-536
Tee



Fig. G-537
Tapped Tee

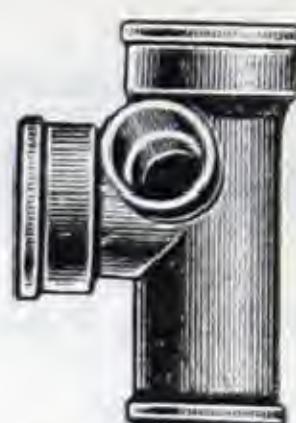


Fig. G-538
Tee with Inlet
Right Hand



Fig. G-539
Tee Y

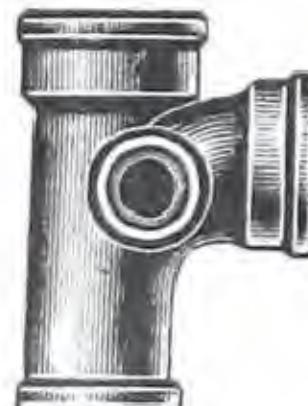


Fig. G-540
Tee Y with Inlet
Left Hand



Fig. G-541
Tee Y with 45°
Inlet R. or L.



Fig. G-542
Tapped Tee Y



Fig. G-543
Tapped Tee Y with
R. or L. Branch

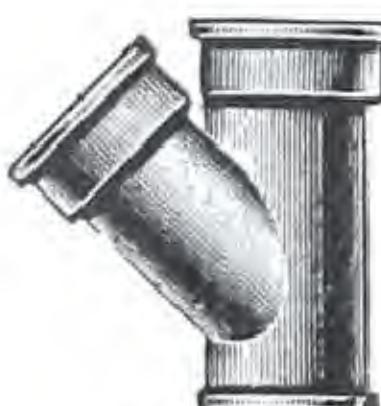


Fig. G-544
Y Branch



Fig. G-545
Tapped Y



Fig. G-546
Y with Inlet
Right Hand



Fig. G-547
½ Y Branch



Fig. G-548
Double Y



Fig. G-549
Double ½ Y

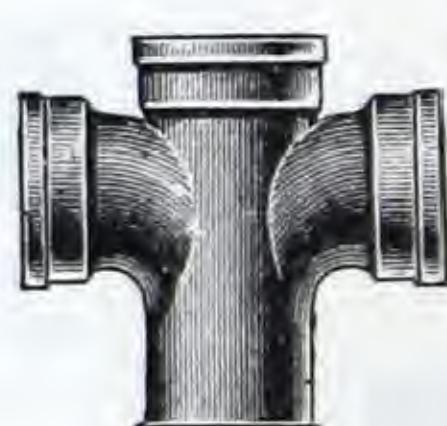


Fig. G-550
Double Tee Y



Fig. G-551
Tapped Double
Tee Y

Price List will be found on Pages 174-177.

Cast Iron Soil Pipe & Fittings (*continued*)

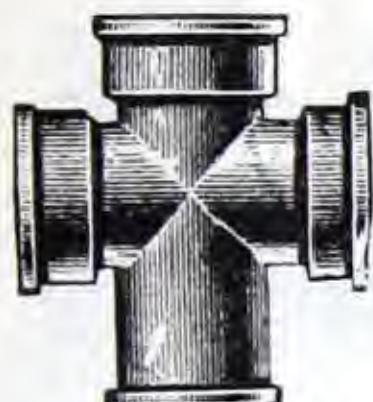


Fig. G-552
Cross

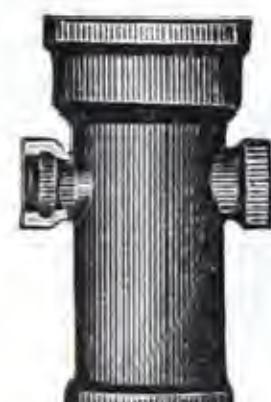


Fig. G-553
Tapped Cross



Fig. G-554
Return Bend



Fig. G-555
Offset



Fig. G-556
Long Tee Y



Fig. G-557
Long Y

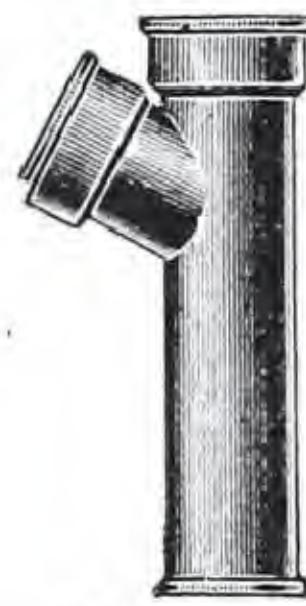


Fig. G-558
Long $\frac{1}{2}$ Y

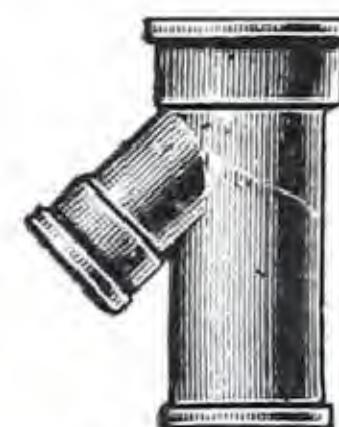


Fig. G-559
Inverted Y

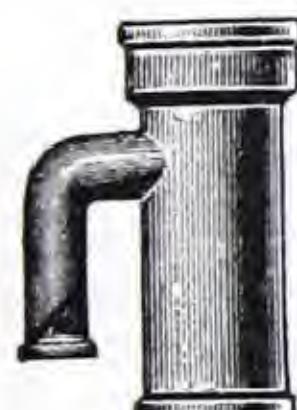


Fig. G-560
Vent Branch



Fig. G-561
Tapped Vent
Branch



Fig. G-562
Cleanout Tee



Fig. G-563
"Daisy"
Cleanout Tee
(Brass Cleanout)

Price List will be found on Pages 174-177.

Cast Iron Soil Pipe & Fittings (*continued*)

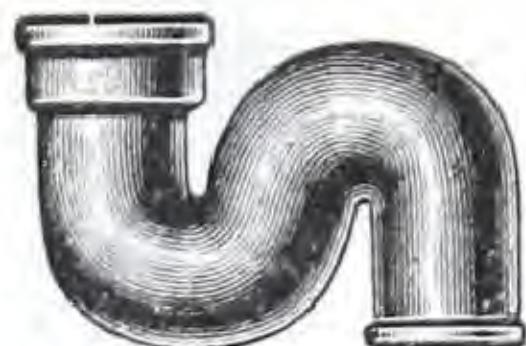


Fig. G-564
S Trap Plain

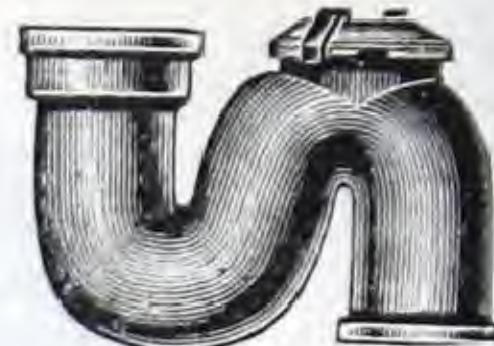


Fig. G-565
S Trap with Hand Hole



Fig. G-566
S Trap with Hub Vent



Fig. G-567
P or $\frac{1}{2}$ S Trap Plain



Fig. G-568
P or $\frac{1}{2}$ S Trap
with Hand Hole



Fig. G-569
P or $\frac{1}{2}$ S Trap
with Hub Vent



Fig. G-570
1/2-S Trap, Plain



Fig. G-571
1/2-S Trap with Hand Hole



Fig. G-572
Running Trap

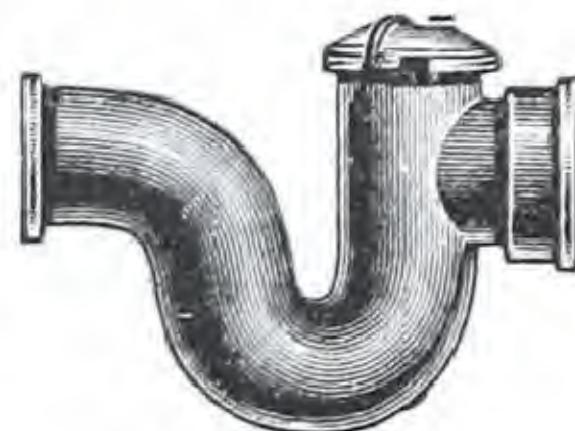


Fig. G-573
Running Trap
with Hand Hole

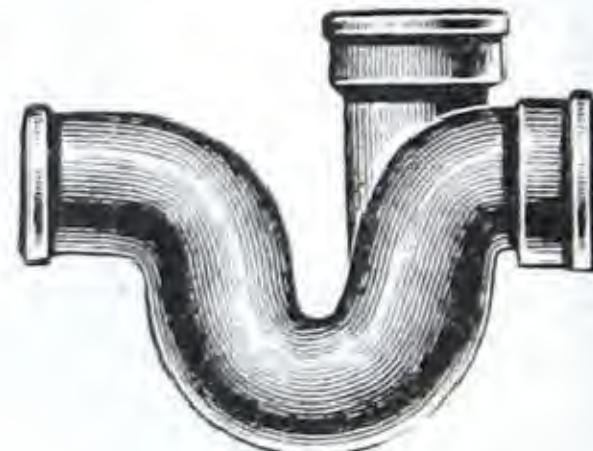


Fig. G-574
Running Trap
with Hub Vent

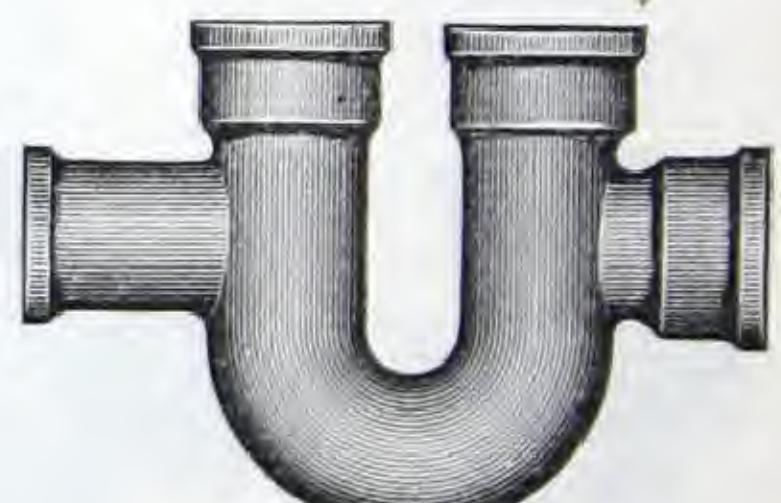


Fig. G-575
Running Trap with
Double Hub Vent

Price List will be found on Page 176.

Cast Iron Soil Pipe & Fittings (*continued*)



Fig. G-576
Single Hub



Fig. G-577
Double Hub



Fig. G-578
Reducer



Fig. G-579
Sleeve



Fig. G-580
Thimble



Fig. G-581
Increaser



Fig. G-582
Tapped
Increaser



Fig. G-583
Soil Pipe Grate



Fig. G-584
Soil Pipe Grate
on Feet

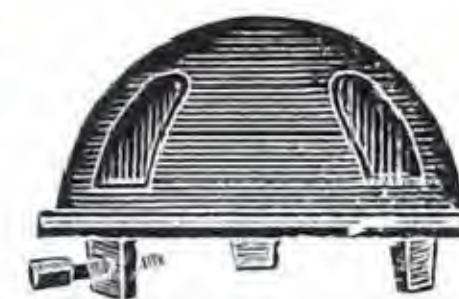


Fig. G-585
Vent Cap
(Ontario Pattern)

Price List will be found on Pages 176-177.

“Connolly” Saddle Hubs

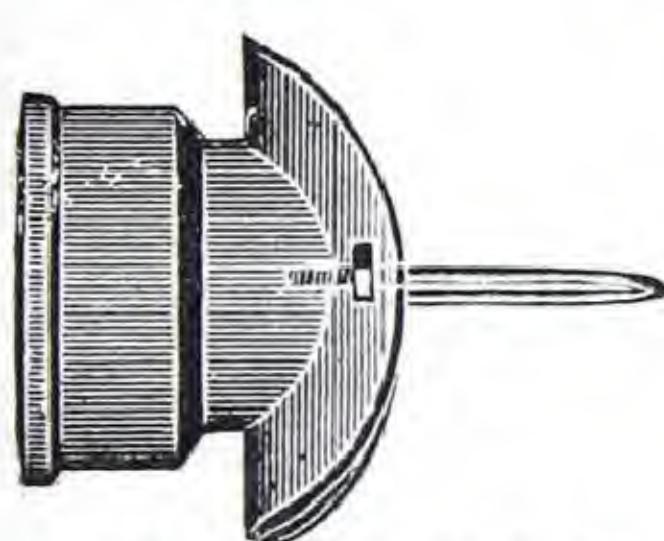


Fig. G-586 T-Hub

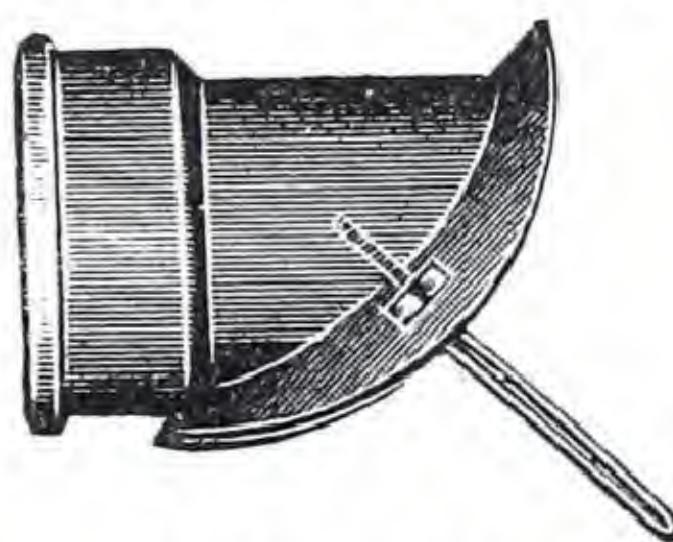


Fig. G-587 Y-Hub

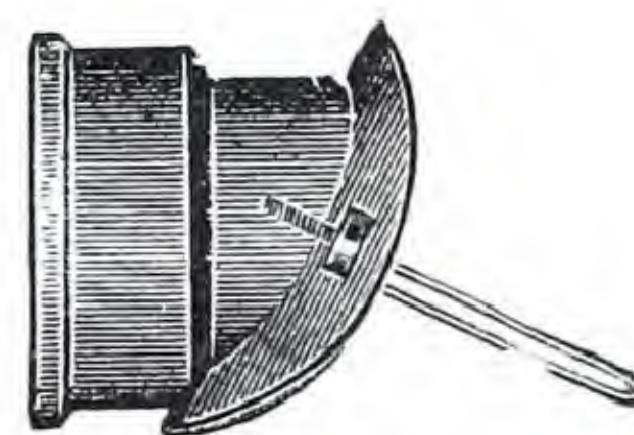


Fig. G-588 $\frac{1}{2}$ Y-Hub

Size, inches	2x2	3x2	3x3	4x2	4x3	4x4	5x2	5x3	5x4	6x2	6x3	6x4
Fig. G-586—Medium . . .	.80	1.30	1.30	1.60	1.60	1.60	2.00	2.00	2.00	2.80	2.80	2.80
Fig. G-587-88 . . . . .	.90	1.40	1.40	1.80	1.80	1.80	2.30	2.30	2.30	3.10	3.10	3.10



Fig. G-589

“Sisson”

Insertable Joint

Size, inches	2	3	4	5	6
Each	\$2.45	2.65	3.20	3.70	4.60

Cut out of the Soil Pipe the length of the branch fitting to be inserted, plus $1\frac{1}{2}$ " for the Sisson Joint.

THOMAS ROBERTSON & COMPANY, LIMITED

Cast Iron Soil Pipe & Fittings

Price List

Size, inches	2	3	4	5	6	8	10	12	15
Soil Pipe, Single Hub									
5 foot lengths	Light, per foot	.26	.35	.46	..	..	..	..	..
	Medium, "	.32	.50	.68	.90	1.05	..	..	..
	Heavy, "	.40	.65	.85	1.15	1.35	2.20	3.60	4.40
Soil Pipe, Double Hub									
5 foot lengths	Light, per foot	.28	.37	.48	..	..	..	..	..
	Medium, "	.38	.56	.74	1.00	1.20	..	..	..
	Heavy, "	.46	.71	.91	1.25	1.50	2.40	3.80	4.60
Bends, $\frac{1}{4}$, $\frac{1}{3}$, $\frac{1}{5}$, $\frac{1}{8}$, $\frac{1}{12}$ and $\frac{1}{16}$									
Fig. G-525-530	Medium, each	.55	.85	1.15	2.00	2.75	..	..	..
	Heavy, "	.65	1.00	1.30	2.20	3.25	5.00	6.50	10.85
Quarter Bends with Inlets									
Fig. G-531-533	Medium, each	..	..	2.15	..	..	..	..	..
	Heavy, . . . . . "	..	..	2.30	..	..	..	..	..
Bends, $\frac{1}{4}$ and $\frac{1}{8}$, Double Hub									
Fig. G-534	Medium, each	.85	1.15	1.45	2.30	3.05	..	..	..

Long Bends, 4" Single Hub, $\frac{1}{4}$ and $\frac{1}{8}$ Length in the clear	10"	12"	15"	18"	20"	24"	30"	36"
Fig. G-535	Medium, each	\$2.75	2.90	3.25	3.50	3.80	4.40	5.00
	Heavy, "	3.50	..	4.25	..	5.25	6.00	7.00

Tee, Tee Y, Y, and Half Y
Fig. G-536—G-539—G-544 — G-547

Size inches	2x2	3x2	3x3	4x2	4x3	4x4	5x2	5x3	5x4	5x5	6x2	6x3	6x4	6x5	6x6
Medium, each	\$0.85	1.45	1.45	2.10	2.10	2.10	2.80	2.80	2.80	2.80	4.00	4.00	4.00	4.00	4.00
Heavy "	1.00	1.65	1.65	2.40	2.40	2.40	3.30	3.30	3.30	3.30	4.50	4.50	4.50	4.50	4.50

Size, inches 8" and reducing sizes
Heavy, each \$9.00

10" and reducing sizes 12" and reducing sizes
\$15.10 \$19.40

Tapped Tee, Tee Y, Y, and Half Y
Fig. G-537 G-542 G-545

Size, inches	2x1 $\frac{1}{4}$	2x1 $\frac{1}{2}$	2x2	3x1 $\frac{1}{4}$	3x1 $\frac{1}{2}$	3x2	4x1 $\frac{1}{4}$	4x1 $\frac{1}{2}$	4x2
Medium, each	\$1.60	1.60	1.60	2.00	2.00	2.00	2.60	2.60	2.60
Heavy "	1.75	1.75	1.75	2.20	2.20	2.20	2.95	2.95	2.95

Tee, Tee Y, Y and Half Y, with Inlet, Right or Left
Fig. G-538, G-540, G-546

Size of inlet, inches	2	3	4	5	6
Add to above Lists,	\$1.00	1.25	1.50	2.00	2.50

THOMAS ROBERTSON & COMPANY, LIMITED

Cast Iron Soil Pipe & Fittings (*continued*)

Price List

Fig. G-541—Tee Y 4" x 4" with 2" Inlet 45° Right or Left.	each	\$3.25
Fig. G-543—Tee Y 4" x 4" with 1 $\frac{1}{4}$ " — 1 $\frac{1}{2}$ " or 2" Tapped Inlet Right or Left.	"	3.60

Double Y, Half Y, — Tee Y, and Cross

Fig. G-548 G-549 G-550 G-552

Size, inches	2x2	3x2	3x3	4x2	4x3	4x4	5x2	5x3	5x4	5x5	6x2	6x3	6x4	6x5	6x6
Medium, each \$	1.70	2.40	2.40	3.10	3.10	3.10	3.90	3.90	3.90	3.90	6.00	6.00	6.00	6.00	6.00
Heavy, "	2.00	2.75	2.75	3.60	3.60	3.60	4.45	4.45	4.45	4.45	6.75	6.75	6.75	6.75	6.75
Size, inches	8"	and reducing sizes		10"	and reducing sizes		12"	and reducing sizes							
Heavy, each	\$13.50			\$22.65			\$29.35								

Tapped Double Tee Y, Double Y and Cross

Fig. G-551 G-552

Size, inches	2x1 $\frac{1}{4}$	2x1 $\frac{1}{2}$	2x2	3x1 $\frac{1}{4}$	3x1 $\frac{1}{2}$	3x2	4x1 $\frac{1}{4}$	4x1 $\frac{1}{2}$	4x2
Medium, each \$	2.70	2.70	2.70	3.20	3.20	3.20	3.90	3.90	3.90
Heavy, "	3.00	3.00	3.00	3.55	3.55	3.55	4.40	4.40	4.40

Fig. G-554—Return Bend, Single Hub

Size, inches	2	3	4	5	6
Medium, each \$	0.95	1.70	2.40	3.65	4.50
Heavy, "	1.05	1.80	2.65	4.15	5.25

Fig. G-555—Offsets

Size & Offset, inches	2x2	2x4	2x6	2x8	2x10	2x12	3x4	3x6	3x8
Medium, each \$	.95	1.10	1.25	1.40	1.60	1.75	1.60	1.75	1.95
Heavy, "	1.15	1.35	1.50	1.65	1.80	1.95	1.85	2.00	2.25

Size & Offset, inches	3x10	3x12	3x16	4x4	4x6	4x8	4x10	4x12	4x14
Medium, each \$	2.20	2.40	3.50	1.80	2.05	2.35	2.60	2.95	3.80
Heavy, "	2.50	2.70	3.80	2.10	2.40	2.70	3.00	3.40	4.45

Size & Offset, inches	4x16	4x18	4x20	4x24	5x4	5x6	5x8	5x10	5x12
Medium, each \$	4.20	4.80	5.45	7.00	3.95	4.40	4.85	5.30	5.75
Heavy, "	4.85	5.65	6.50	8.75	4.50	5.00	5.50	6.00	6.50

Size & Offset, inches	5x14	5x16	6x4	6x6	6x8	6x10	6x12	6x14	6x16
Medium, each \$	6.25	6.75	5.00	5.50	6.00	6.50	7.00	7.75	8.90
Heavy, "	7.00	7.50	6.00	6.50	7.00	7.50	8.00	9.00	10.25

For all Fittings with Double Hubs, add to List, each \$0.30

THOMAS ROBERTSON & COMPANY, LIMITED

Cast Iron Soil Pipe & Fittings (*continued*)

Price List

Long Tee Y,—Y,—and $\frac{1}{2}$ Y

Fig. G-556, G-557, G-558

Size, inches	4x18	4x24	4x30	4x36	5x18	5x24	5x30	5x36	6x18	6x24	6x30	6x36
Medium, each	\$4.45	5.20	5.95	6.70	5.95	6.95	7.95	8.95	7.75	8.75	9.75	10.75
Heavy, "	5.35	6.10	6.85	7.60	7.10	8.10	9.10	10.10	8.75	9.75	10.75	11.75

Inverted Y and Vent Branch

Size, inches	2 x 2	3 x 2	3 x 3	4 x 2	4 x 3
Fig. G-559, G-560—Medium, each	\$1.25	1.75	1.75	2.25	2.25

Size, inches	2	3	4	5	6
Fig. G-561—Tapped Vent Branch, Medium, each	\$2.00	2.30	2.80		
Fig. G-562—Cleanout Tee, Bolted Cover, Medium, "	1.60	2.20	2.85	3.50	4.75
Fig. G-563—" " Brass Cleanout "	1.30	1.70	2.40	3.25	3.90

Size, inches	2	3	4	5	6	8
Plain Traps, S, P or $\frac{1}{2}$ S, $\frac{3}{4}$ S and Running						
Fig. G-564, G-567, G-570, G-572	Medium, each	\$1.15	1.90	2.50	4.25	6.00
	Heavy, "	1.35	2.25	3.00	4.75	7.00
						13.00
Traps with Hand Hole and Cover, or with Hub Vent						
Fig. G-565-6, G-568-9, G-571, G-573-4	Medium, each	\$2.15	2.90	3.50	5.25	7.00
	Heavy, "	2.35	3.25	4.00	5.75	8.00
						14.00
Running Trap with Double Hub Vent						
Fig. G-575,	Medium, each	\$3.15	4.40	5.50	7.25	9.00
	Heavy, "	3.65	4.90	6.00	7.75	10.00
						16.00

Single & Double Hubs, Sleeve, and Thimble

Size, inches	2	3	4	5	6	8
Fig. G-576-7, G-579-80	Medium, each	\$0.45	0.70	0.85	1.20	1.45
	Heavy, "	0.50	0.80	0.95	1.35	1.60
						3.50

Fig. G-578—Reducer

Size, inches	3x2	4x2	4x3	5x2	5x3	5x4	6x2	6x3	6x4	6x5	8x4	8x5	8x6
Medium, each	\$0.85	1.10	1.10	1.45	1.45	1.45	1.75	1.75	1.75	1.75			
Heavy, "	1.00	1.25	1.25	1.75	1.75	1.75	2.25	2.25	2.25	2.25	4.25	4.25	4.25

Fig. G-581—Increaser

Size, inches	2x3	2x4	2x5	3x4	3x5	4x5	4x6	5x6	6x8
Medium, each	\$0.85	1.10	1.45	1.10	1.45	1.45	1.75	1.75	
Heavy, "	1.00	1.25	1.25	1.25	1.25	1.25	2.25	2.25	5.00

Cast Iron Soil Pipe & Fittings (*continued*)

Price List

Fig. G-582—Tapped Increaser

Size,	inches	3x1 $\frac{1}{4}$	3x1 $\frac{1}{2}$	3x2	4x1 $\frac{1}{4}$	4x1 $\frac{1}{2}$	4x2
Medium,	each	\$1.50	1.50	1.50	2.00	2.00	2.00

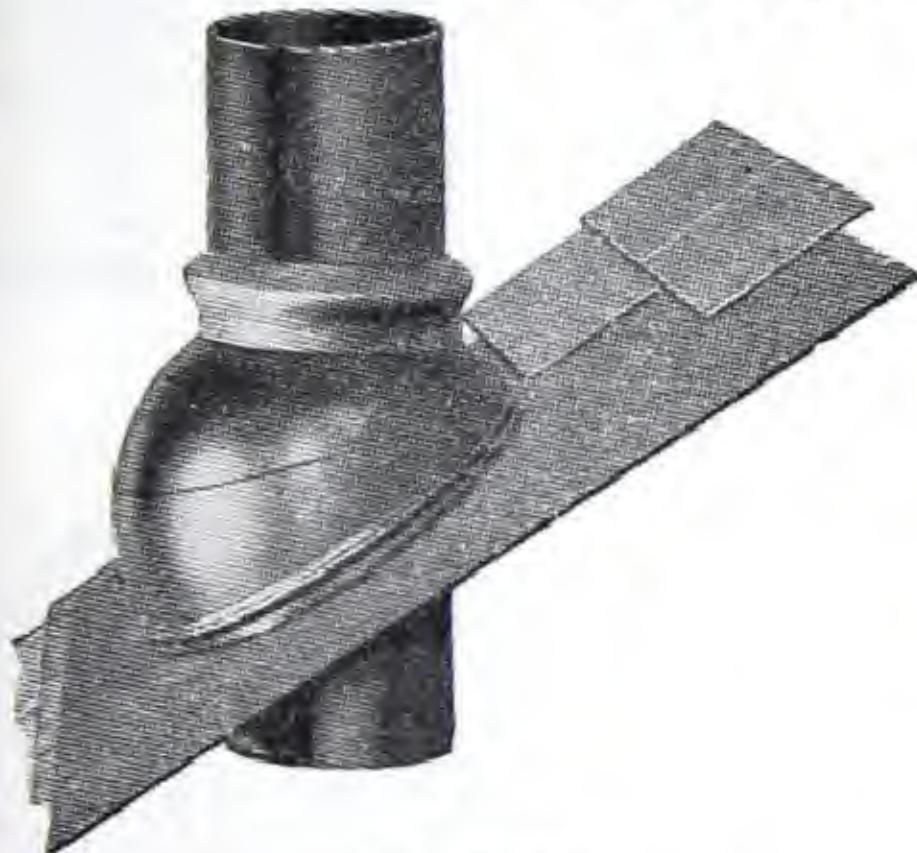
Fig. G-583-4—Soil Pipe Grates

Size,	inches	2	3	4	5	6
Solid or with Feet	each	\$0.40	0.45	0.50	0.75	1.00

Fig. G-585—Vent Cap 4" (Ontario Pattern) each \$0.75

Size,	inches	2	3	4	5	6
Plugs or Stoppers (not illustrated)	each	\$0.20	0.30	0.40	0.60	0.75

Adjustable Roof Flanges



To suit any pitch of
Roof from flat to
45 degrees pitch

Diam.	Galv'd Iron	Copper
2"	\$2.90	5.00
3"	3.00	5.50
4"	3.10	6.00
5"	5.50	8.50
6"	7.80	14.00

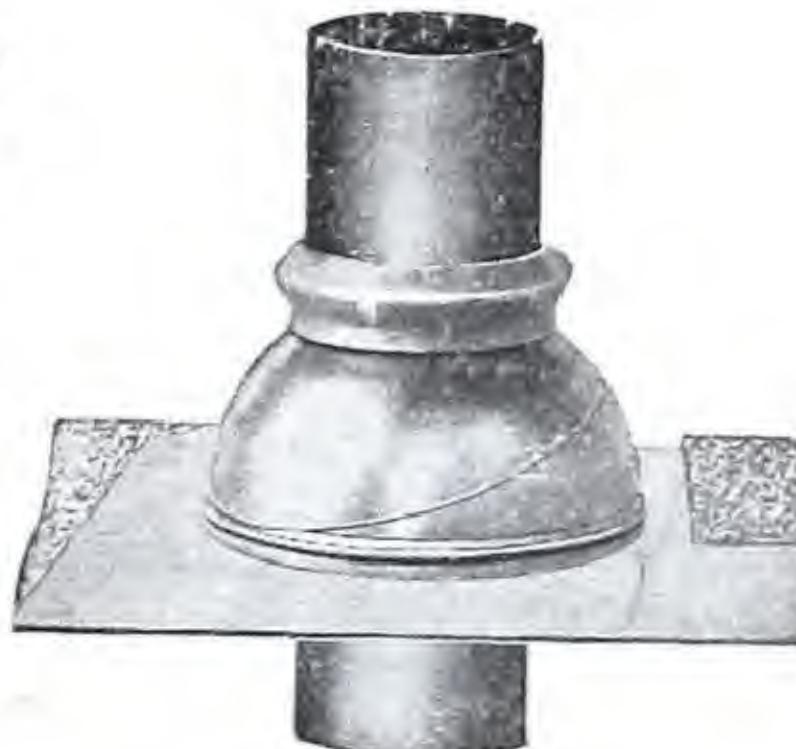


Fig. G-590

Fig. G-591

“Palmer” Back-Water Sewer Valve

With Hand Hole and Cover

Size, inches	2	3	4	5	6	8
Each	\$6.00	6.50	7.50	9.00	10.00	15.00

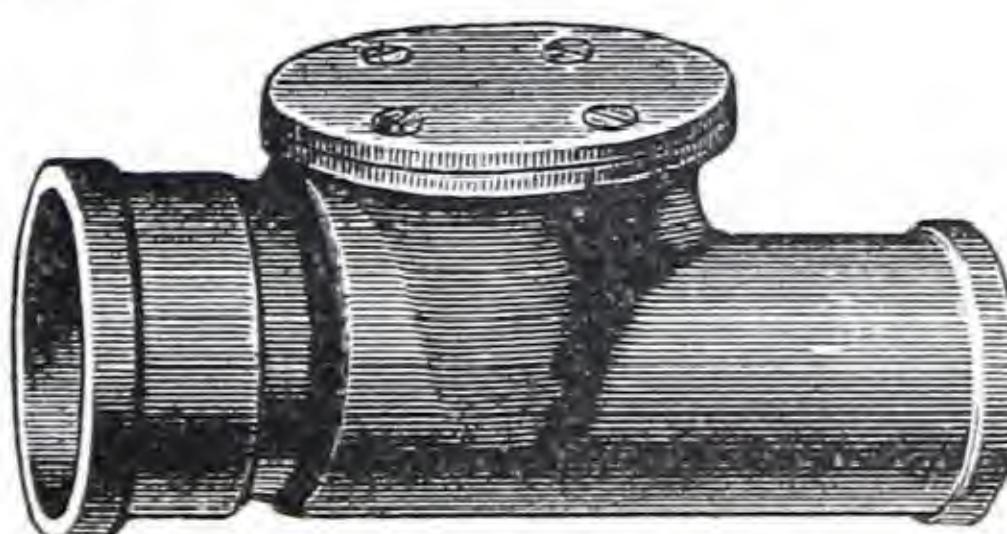


Fig. G-592

Approximate Weights
of Cast Iron Soil Pipe and Fittings

LIGHT—	Size, inches . . .	2	3	4	5	6
Single Hub Pipe, 5 ft. lengths . . .	Lbs. per foot . . .	3 $\frac{1}{2}$ 4	4 $\frac{1}{2}$ 5	6 $\frac{1}{2}$ 7	8 $\frac{1}{2}$ 9 $\frac{1}{2}$	10 $\frac{1}{2}$ 12 $\frac{1}{2}$
Double " "	" "					
MEDIUM						
Single Hub Pipe, 5 ft. lengths . . .	Lbs. per foot . . .	4	6 $\frac{1}{2}$ 7	9	13	15
Double " "	" "	4 $\frac{1}{2}$		10	14	16
Bends, $\frac{1}{4}$ Quarter	Lbs. each	4	6 $\frac{3}{4}$ 6 $\frac{1}{4}$	11 9 $\frac{1}{2}$	15 12 $\frac{1}{2}$	21 $\frac{1}{2}$ 17 $\frac{1}{4}$
" $\frac{1}{6}$ Sixth	" "	4	6 $\frac{1}{4}$			
" $\frac{1}{8}$ Eighth	" "	3 $\frac{1}{2}$	5 $\frac{3}{4}$ 5 $\frac{1}{2}$	8 $\frac{1}{4}$ 8	12 9 $\frac{1}{4}$	15 $\frac{1}{4}$ 13 $\frac{1}{4}$
" $\frac{1}{16}$ Sixteenth	" "	3 $\frac{1}{4}$				
Return Bends, Single Hub	" "	5 $\frac{1}{2}$	8 $\frac{1}{2}$	12 $\frac{1}{2}$	18 $\frac{1}{2}$	26
Tees	" "	6	10 $\frac{1}{2}$	14 $\frac{1}{2}$	20	29 $\frac{1}{2}$
T Y's	" "	6 $\frac{1}{2}$	11 $\frac{1}{2}$	16 $\frac{1}{4}$	22	31 $\frac{1}{4}$
Y's	" "	7	13	18 $\frac{1}{2}$	28 $\frac{1}{2}$	36 $\frac{1}{4}$
Reducing T Y's	" "	..	9 $\frac{1}{2}$	14 $\frac{3}{4}$	22 $\frac{3}{4}$	28 $\frac{1}{2}$
$\frac{1}{2}$ Y's	" "	6 $\frac{3}{4}$	10 $\frac{1}{2}$	14 $\frac{1}{2}$	19 $\frac{1}{2}$	30 $\frac{1}{2}$
Reducing $\frac{1}{2}$ Y's	" "	..	9	13 $\frac{1}{4}$	17 $\frac{1}{4}$	25 $\frac{1}{2}$
Double Y's	" "	10 $\frac{1}{4}$	17	23	30 $\frac{1}{2}$	44
Reducing Double Y's	" "	..	12 $\frac{1}{2}$	18	25 $\frac{1}{2}$	40
Double Hubs	" "	4	6 $\frac{1}{4}$	8	10 $\frac{1}{4}$	13 $\frac{1}{2}$
Crosses	" "	8 $\frac{3}{4}$	14	20	25	37
Reducing Crosses	" "	..	11	16	23 $\frac{1}{2}$	31
Reducers	" "	..	4	5	8	9
S Traps	" "	8	13 $\frac{1}{2}$	20	25	54
$\frac{1}{2}$ S "	" "	6 $\frac{3}{4}$	13	19	29	40
Running Traps	" "	9	14	23	29	41

Offsets

MEDIUM						HEAVY					
Diam. inches . . .	2	3	4	5	6	Diam. inches . . .	2	3	4	5	6
OFFSET						OFFSET					
	Pounds each						Pounds each				
4 inches	5 $\frac{1}{4}$	8 $\frac{1}{2}$	11 $\frac{1}{2}$	16	20	4 inches	6	10	13	17	20 $\frac{1}{2}$
6 "	5 $\frac{3}{4}$	9 $\frac{1}{2}$	13	19	22	6 "	6 $\frac{1}{2}$	12 $\frac{1}{2}$	15	20	24
8 "	6	10	14	19 $\frac{1}{2}$	23 $\frac{1}{2}$	8 "	7 $\frac{1}{2}$	14	16	22	33
10 "	7	10 $\frac{1}{2}$	16	20	25	10 "	8	15	17	23	36
12 "	7 $\frac{1}{2}$	11 $\frac{1}{4}$	17	21	28 $\frac{1}{2}$	12 "	9	16	19	25 $\frac{1}{4}$	39
14 " . . . . .	..	..	19	22 $\frac{1}{2}$	33	14 " . . . . .	..	..	21	26 $\frac{1}{2}$	46
16 " . . . . .	..	..	21	26 $\frac{1}{2}$	35	16 " . . . . .	..	..	24	28	48

N.B.—These weights are only approximate, actual weights vary considerably.

THOMAS ROBERTSON & COMPANY, LIMITED

Approximate Weights of Cast Iron Soil Pipe and Fittings (*continued*)

HEAVY	Size,	inches	2	3	4	5	6	8	10	12
Single Hub Pipe, 5 ft. lengths	Lbs. per foot	5½	9½	13	17	20	34	45	54	
Double "	"	6	10	14	18	21	...	...	...
Bends, $\frac{1}{4}$ Quarter	Lbs. each	6	9	13½	19	23	65	80	95	
" $\frac{1}{6}$ Sixth	"	4½	8	12	17½	21½	55	60	90	
" $\frac{1}{8}$ Eighth	"	5	8	11	14	20	50	56	80	
" $\frac{1}{16}$ Sixteenth	"	4	6	9	11	17½	38	48	65	
Tees	"	7	14½	19	21	31	95	105	160	
T Y's	"	10	15	20	21	38½	96	135	210	
Y's	"	9	16	23	33	40	90	138	218	
Reducing T Y's	"	11½	17	22	31	73	135	210		
$\frac{1}{2}$ Y's	"	8	15	18	24	34	80	136	212	
Reducing $\frac{1}{2}$ Y's	"	13	15	22	27	76	130	209		
Double Y's	"	11½	20	25	37	48	116	153	266	
Reducing Double Y's	"	16	20	20	32½	42	100	145	260	
Double Hubs	"	4½	8½	9½	11	14½	34	39	45	
Crosses	"	10	16	20	30	42	80	116	176	
Reducing Crosses	"	12	17	25	36	76	111	163		
Reducers	"	4½	7	9	10	15	15	28½		
$\frac{1}{2}$ S Traps	"	8	16	28	38	45	100			
Running Traps	"	9	17	28	31	53	110			

N. B.—These weights are approximate only, actual weights vary considerably.

Conductor Strainers

" Aeolian " Ventilators

Fig. G-593



Size inches	2	3	4	5	6
Galv'd. per doz.	\$4.00	4.00	5.00	6.80	8.30

Prices for Copper Strainers
on application

Fig. G-594

Size inches	6	8	10	12	14
Painted each	\$15.00	16.50	19.50	22.50	28.50
Size inches	16	18	20	24	30

Painted each	\$37.50	45.00	52.50	78.00	120.00
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Prices for larger sizes
on application

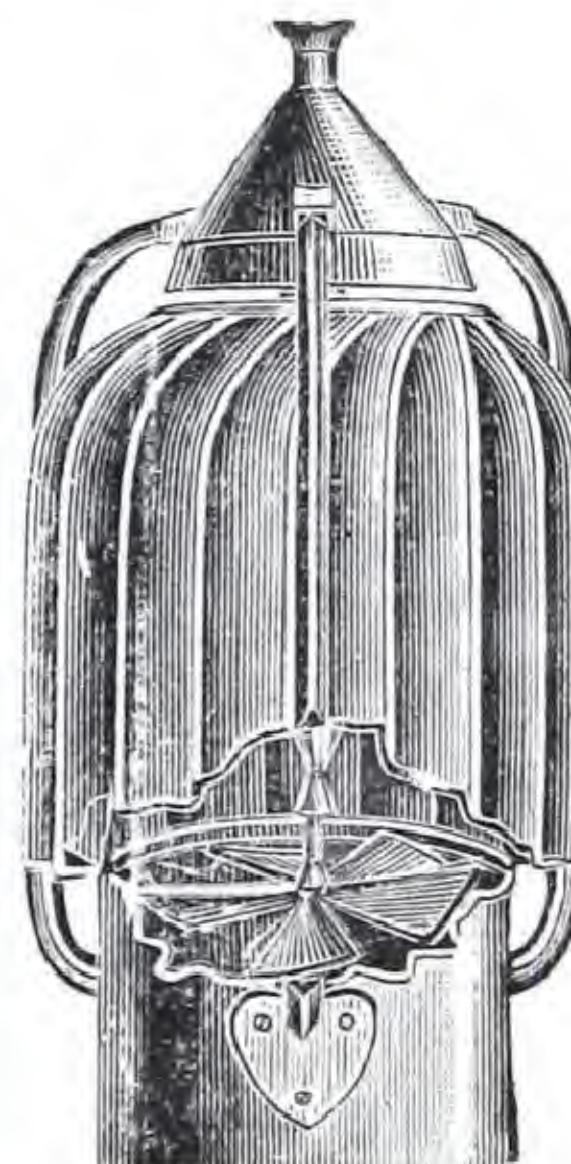


Fig. G-594

Fig. G-593

Cast Iron Floor Drains with Bell Trap



Fig. G-595



Fig. G-596

16" x 16" with Heavy Double
Grate, and 4" outlet each \$10.80

12" x 12" with 4" outlet, each	\$3.30
9" x 9" " 3" " "	2.60
6" x 6" " 2" " "	1.20

Septic Tank Sewage Disposal for Country Homes

"SAN-EQUIP" Septic Tanks made of Copperoid Iron, protected by a heavy coat of mineral asphalt enamel, rust resisting and unaffected by moisture, acids or soil. After passing through the Septic Tank the treated sewage (or effluent) is usually disposed of by soil filter, or discharged into a stream or a dry well.



For
Layout
of typical
installa-
tion
see
Fig. G-598



Fig. G-597

SIZES and RATINGS

Size No.	Dimensions Diam.	Working * Capacity	Number of People		
			Home	School	Factory
402	38" x 48" depth	200 gals.	6	12	10
403	48" x 48" "	300 "	10	20	15
405	52" x 60" length	500 "	20	35	30
410	60" x 96" "	1000 "	50	65	60

LIST PRICES & SHIPPING WEIGHTS

No. 402	\$44.00	295 lbs.
" 403	56.00	325 lbs.
" 405	90.00	420 lbs.
" 410	180.00	950 lbs.

Prices, Blue Prints, and full information for any size installation, furnished on request.

* Working Capacity means quantity of sewage which can be treated and disposed of every 24 hours.

Septic Tank Sewage Disposal Systems

FILTER BED—GROUND VIEW

Grade branches 1" to 10 ft

A **Grease Trap** of efficient type and suitable size, should be placed outside the kitchen, to intercept and remove Grease, which retards and interferes with the bacterial action in the Septic Tank.

Prices on application.

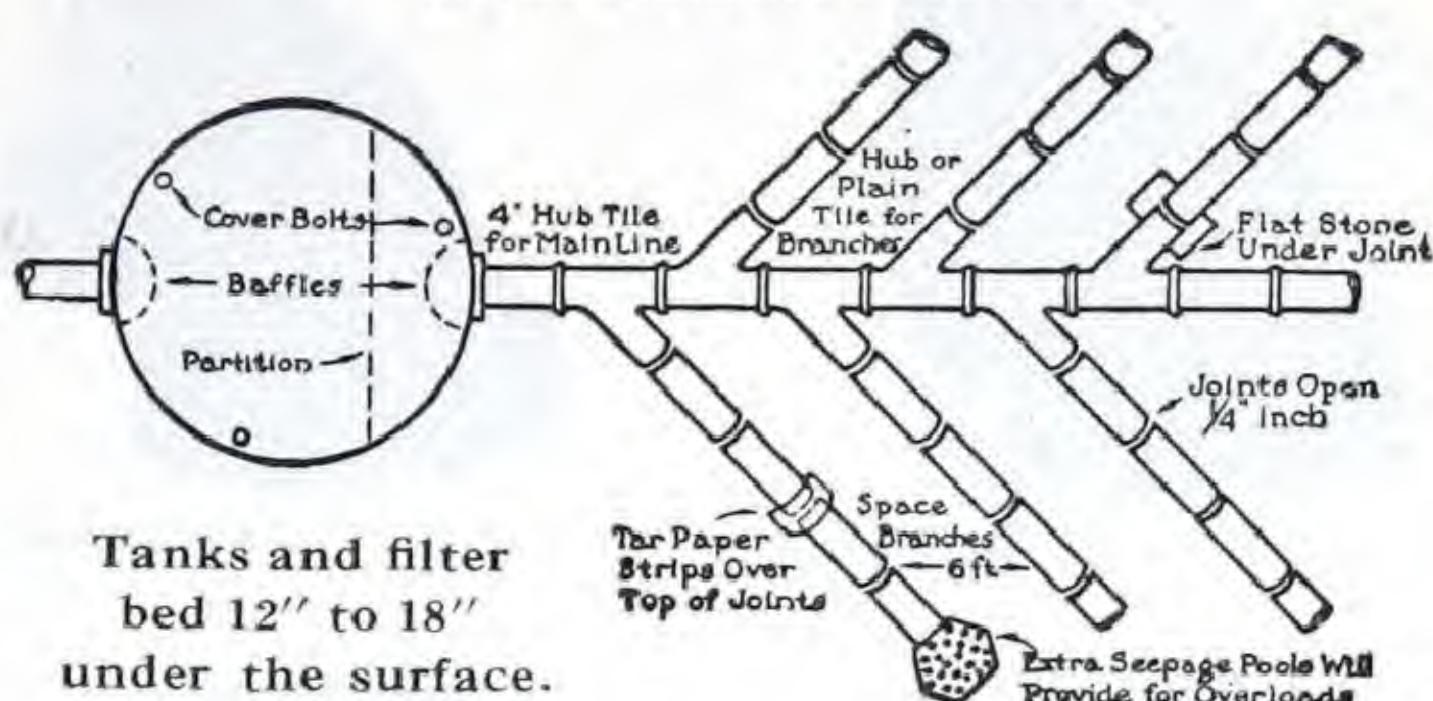


Fig. G-598. Septic Tank and Soakaway Pipes

C. I. Automatic Siphons

Each siphon has a bead on the long leg. This bead should be placed so as to be at the bottom of the tank; the portion below should be embedded in cement and set level.



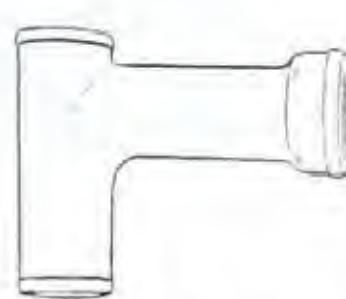
Fig. G-599

3" diameter with 4" outlet . . . \$24.00

5" " " 6" " . . . 60.00

Special Septic Tank Fittings

The 4 make the full set



Inlet to Septic
Tank from house
Each \$6.60

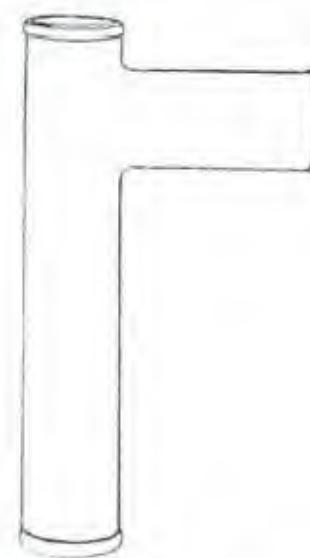
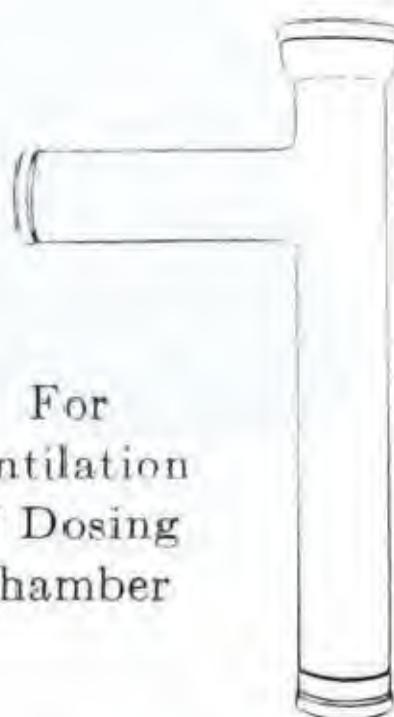


Fig. G-601

Overflow into
Dosing Chamber
Each \$8.00



For
Ventilation
of Dosing
Chamber

Fig. G-602

Each \$12.00

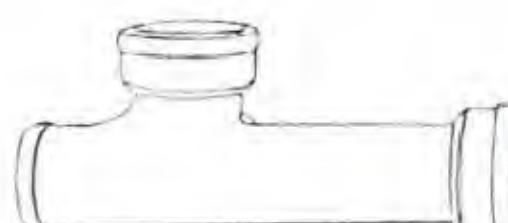


Fig. G-603

Outlet from Dosing (or
Siphon) Chamber, with
branch for Vent G-602
Each \$8.00.

Cast Iron Drainage Fittings

Screwed for Iron Pipe



Fig. G-604—90° Elbow



Fig. G-605—60° Elbow



Fig. G-606—45° Elbow



Fig. G-607—22½° Elbow



Fig. G-608—11¼° Elbow



Fig. G-609—5½° Elbow



Fig. G-610
90° Long Turn Elbow



Fig. G-611
45° Long Turn Elbow



Fig. G-612
Three Way Elbow

Size,	inches	1	1½	1½	2	2½	3	4	5	6	8
Fig. G-604-609	Black	\$0.28	0.30	0.38	0.57	1.20	1.45	2.30	4.25	6.25	15.00
	Galvanized	0.49	0.52	0.67	1.00	2.10	2.55	4.00	7.40	11.00	26.25
Fig. G-610-11	Black	\$0.32	0.35	0.42	0.65	1.40	1.75	2.75	5.25	7.50	19.00
	Galvanized	0.56	0.60	0.72	1.15	2.45	3.10	4.80	9.20	13.15	33.25
Fig. G-612	Black .....	...	0.75	0.85	1.10	2.25	3.00	5.00	7.50	13.50	...
" Reducing	Galvanized .....	...	1.25	1.50	1.95	3.90	5.25	8.75	13.15	23.50	...
" Reducing	Black .....	...	...	...	...	...	...	5.50	8.25	15.00	...
" Reducing	Galvanized .....	...	...	...	...	...	...	9.65	14.50	26.25	...

Cast Iron Drainage Fittings (*Continued*)



Fig. G-613—Tee



Fig. G-614—90° TY Branch

Size, inches	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	
Fig. G-613	Black	\$. . .	0.45	0.55	0.80	1.50	2.00	3.25	6.00	8.75	21.00
	Galvanized . . . . .	.. . . .	0.80	1.00	1.40	2.50	3.50	5.70	10.50	15.25	37.00
Reducing	Black . . . . .	.. . . .	0.60	0.90	1.65	2.20	3.60	6.60	.. . .	.. . .	.. . .
	Galvanized . . . . .	.. . . .	1.10	1.60	2.75	3.85	6.30	11.55	.. . .	.. . .	.. . .
Fig. G-614	Black	\$0.40	0.45	0.57	0.85	1.80	2.20	3.50	6.50	9.50	23.00
	Galvanized	0.70	0.80	1.00	1.50	3.15	3.85	6.15	11.35	16.50	40.00
Reducing	Black . . . . .	.. . . .	0.50	0.63	0.95	2.00	2.40	3.85	7.15	10.50	25.50
	Galvanized . . . . .	.. . . .	0.90	1.10	1.65	3.50	4.20	6.75	12.50	18.50	44.50



Fig. G-615—60° Y Branch



Fig. G-616—45° Y Branch

Size, inches	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	
Fig. G-615-16	Black	\$0.52	0.65	0.95	2.10	2.65	3.85	7.10	10.50	25.00
	Galvanized	0.90	1.15	1.65	3.70	4.65	6.75	12.50	18.50	44.00
Fig. G-615. Reducing	Black . . . . .	.. . . .	1.05	.. . .	2.90	4.25	7.80	11.50	27.50	.. . . .
	Galvanized . . . . .	.. . . .	1.85	.. . .	5.10	7.40	13.65	20.00	48.00	.. . . .
Fig. G-616. Reducing	Black . . . . .	.. . . .	0.72	1.05	2.30	2.90	4.25	7.80	11.50	27.50
	Galvanized . . . . .	.. . . .	1.25	1.85	4.00	5.10	7.40	13.65	20.00	48.00

For Reducing Sizes, see page 188.

Cast Iron Drainage Fittings (*Continued*)


Fig. G-617—Double 90° TY Branch



Fig. G-618—Double 45° Y Branch

Size,		inches	1	1½	1¾	2	2½	3	4	5	6	8
Fig. G-617	Black		\$0.60	0.70	0.85	1.30	2.85	3.40	5.25	9.50	14.00	36.00
	Galvanized		1.05	1.22	1.50	2.30	5.00	5.95	9.20	16.50	24.50	62.00
Reducing	Black		0.77	0.95	1.50	3.15	3.75	5.75	10.50	15.50	40.00	
	Galvanized		1.35	1.65	2.60	5.50	6.55	10.00	18.50	27.00	68.00	
Fig. G-618	Black		0.90	1.00	1.45	3.25	4.00	5.75	10.75	16.00	38.00	
	Galvanized		1.60	1.75	2.55	5.70	7.00	10.00	18.80	28.00	66.50	
Reducing	Black		—	1.10	1.60	3.60	4.40	6.35	11.75	17.50	42.00	
	Galvanized		—	1.90	2.80	6.30	7.70	11.00	20.50	30.50	72.00	


 Fig. G-619
Long Turn 90° TY Branch

 Fig. G-620
Double 90° Long Turn TY Branch

Size,		inches	1½	1¾	2	2½	3	4	5	6	8
Fig. G-619	Black		\$0.57	0.70	1.10	2.40	3.35	6.00	9.50	20.00	40.00
	Galvanized		1.00	1.22	1.95	4.20	5.85	10.50	16.50	35.00	70.00
Reducing	Black		0.63	0.80	1.20	2.65	3.75	6.60	10.50	22.00	44.00
	Galvanized		1.10	1.40	2.10	4.65	6.55	11.55	18.50	38.50	77.00
Fig. G-620	Black		1.00	1.10	1.75	3.60	5.00	9.00	14.00	30.00	60.00
	Galvanized		1.75	1.95	3.10	6.30	8.75	15.75	24.50	52.50	105.00
Reducing	Black		1.10	1.25	1.90	4.00	5.50	10.00	15.50	33.00	66.00
	Galvanized		1.90	2.25	3.35	7.00	9.65	17.50	27.00	58.00	112.00

For Reducing Sizes, see page 188.

Cast Iron Drainage Fittings (*Continued*)



Fig. G-621—Basin Tee



Fig. G-622—Basin Cross

Size, inches	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$	Reducing 1 $\frac{1}{2}$	2
Black	\$0.60	0.70	1.10	1.75	0.77	1.20
Galvanized	1.00	1.22	1.95	3.00	1.35	2.10

Size, inches	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2	Reducing 2
Black	\$1.25	1.50	1.75	1.95
Galvanized	2.25	2.50	3.10	3.40

Diam.	inches	2	2	2	2	3	3	3
Offset	"	4	6	8	10	4	6	8
Black		\$2.15	2.40	2.60	2.85	3.35	4.00	4.75
Galvanized		3.75	4.20	4.55	5.00	5.85	7.00	8.30

Diam.	inches	3	4	4	4	4	4	5
Offset	"	10	4	6	8	10	12	6
Black		\$5.50	5.00	5.75	6.50	7.50	8.50	9.00
Galvanized		9.65	8.75	10.00	11.35	13.15	15.00	15.75

Diam.	inches	5	5	5	6	6	6	6
Offset	"	8	10	12	6	8	10	12
Black		\$10.00	11.00	12.00	12.50	13.50	14.50	15.50
Galvanized		17.50	19.25	21.00	22.00	23.50	25.50	27.00



Fig. G-624—Coupling



Fig. G-625—Increaser

Size, inches	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$	3	4	5	6	8
Fig. G-624 Black	\$0.65	0.70	0.80	0.90	1.20	1.50	2.50	4.00	6.00	10.00
Fig. G-624 Galvanized	1.15	1.25	1.40	1.60	2.10	2.60	3.40	7.00	10.50	17.50
Fig. G-625 Black				1.75	2.00	2.50	3.75	5.50	6.50	15.00
Fig. G-625 Galvanized				3.00	3.50	4.40	6.55	9.65	11.35	26.25

For Reducing Sizes (also Increaser Sizes) see page 188.

Cast Iron Drainage Fittings (*Continued*)



Fig. G-626
Closet Elbow 4" x 5"
Black \$4.25 Galv'd. \$7.40



Fig. G-627
Closet Elbow 4"
Black \$4.25 Galv'd. \$7.40



Fig. G-628
Closet Flange 4" x 7"
Black \$1.35 Galv'd. \$2.35
All Brass.....\$7.00



Fig. G-629
Special Elbow 4"
With 2" Side Inlet
Black \$3.85 Galv'd. \$6.75



Fig. G-630
Special Elbow 4"
With 2" Inlet on Heel
Black \$3.85 Galv'd. \$6.75



Fig. G-631
Special Elbow 4"
With 2" Cleanout
Black \$5.00 Galv'd. \$8.75

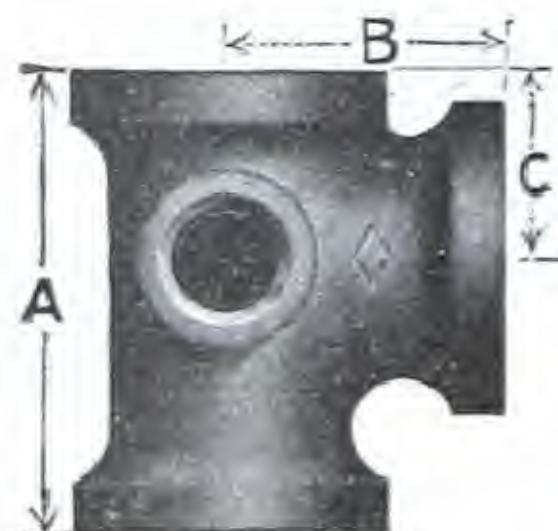


Fig. G-632
Closet Tee 4" with
2" Inlet 90° R. or L.
Black \$5.75 Galv'd. \$10.00



Fig. G-633
Closet Tee 4" with
2" Inlet 45° R. or L.
Black \$6.35 Galv'd. \$11.00

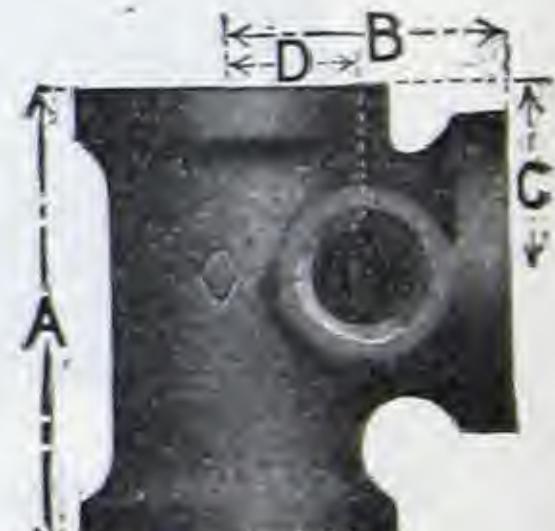


Fig. G-634
Closet Tee 4" with
2" Vent R. or L.
Black \$5.75 Galv'd. \$10.00

Cast Iron Drainage Fittings (*Continued*)



Fig. G-635

P or $\frac{1}{2}$ S Trap with or without Cleanout



Fig. G-636

P or $\frac{1}{2}$ S Trap with Cleanout and Vent



Fig. G-637

S Trap with Cleanout and Vent



Fig. G-638

Running Trap with Cleanout and Vent

Size,	inches	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2	3	4	5	6	8
Fig. G-635	Black	\$1.45	1.55	2.00	4.70	..	..	..	..
	Galvanized	2.55	2.70	3.50	8.25	..	..	..	..
Fig. G-636	Black	1.55	1.70	2.20	5.00	10.00	21.50	32.50	55.00
	Galvanized	2.70	3.00	3.85	8.75	17.50	37.50	57.00	95.00
Fig. G-637	Black . . . . .	..	..	4.00	9.25	14.00	21.00	36.00	..
	Galvanized . . . . .	..	..	7.00	16.00	24.00	37.00	63.00	..
Fig. G-638	Black	2.40	2.70	3.30	5.50	9.75	24.50	33.50	65.00
	Galvanized	4.20	4.70	5.75	9.50	17.00	43.00	58.50	115.00

Cast Iron Sink Collar

For Iron Pipe

Size,	inches	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2
Each		\$0.85	0.85	1.00



Fig. G-639

Cast Iron Drainage Fittings (*Continued*)

LIST OF REDUCING SIZES

Fig. G-604 90° Elbow	Fig. G-616 Y Branch 45°	Fig. G-620 Long Turn, 90° Double T Y
1 1/2" x 1 1/4" (Price as 2" list)	1 1/2" x 1 1/4" 2" x 1 1/4"-1 1/2" 2 1/2" x 1 1/4"-1 1/2"-2" 3" x 1 1/4"-1 1/2"-2"-2 1/2" 4" x 1 1/4"-1 1/2"-2"-2 1/2"-3" 5" x 2" -3" -4" 6" x 2" -2 1/2"-3"-4"-5" 8" x 3" -4"-5"-6"	1 1/2" x 1" 1 1/2" x 1" -1 1/2" 2" x 1 1/4"-1 1/2" 2 1/2" x 1 1/4"-1 1/2" 3" x 1 1/4"-2" 4" x 2" 5" x 4" 6" x 2" -4" -5" 8" x 6"
Fig. G-612 Three Way Elbow	Fig. G-617 Double T Y Branch 90°	Fig. G-621 Basin Tee
4" x 3" 5" x 4" 6" x 4"-5"	1 1/2" x 1" 1 1/2" x 1 1/4" 2" x 1 1/4"-1 1/2" 2 1/2" x 1 1/4"-2" 3" x 1 1/4"-2" 4" x 2" -3" 5" x 2" -3"-4"	1 1/2" x 1 1/4" 2" x 1 1/4"-1 1/2"
Fig. G-613 Tee	Fig. G-618 Double Y Branch 45°	Fig. G-622 Basin Cross
1 1/2" x 1 1/4" 2" x 1 1/4"-1 1/2" 2 1/2" x 1 1/4"-2" 3" x 1 1/4"-1 1/2"-2" 4" x 1 1/4"-1 1/2"-2"-2 1/2"-3" 5" x 1 1/4"-2"-2 1/2"-3"-4" 6" x 1 1/4"-2"-3"-4"-5" 8" x 2"-3"-4"-5"-6"	1 1/2" x 1 1/4" 2" x 1 1/4" 2 1/2" x 1 1/4"-1 1/2" 3" x 1 1/4"-2" 4" x 2" -3" 5" x 2" -3" -4" 6" x 2" -3" -4" 8" x 4" -6"	2" x 1 1/4"
Fig. G-614 T Y Branch 90°	Fig. G-619 Long Turn 90° T Y	Fig. G-625 Increaser
1 1/2" x 1" 1 1/2" x 1" -1 1/2" 2" x 1 1/4"-1 1/2" 2 1/2" x 1 1/4"-1 1/2"-2" 3" x 1 1/4"-1 1/2"-2" 4" x 1 1/4"-1 1/2"-2"-2 1/2"-3" 5" x 1 1/4"-2"-2 1/2"-3"-4" 6" x 1 1/4"-2"-3"-4"-5" 8" x 2"-3"-4"-5"-6"	1 1/2" x 1" 1 1/2" x 1" -1 1/2" 2" x 1" -1 1/2"-1 1/4" 2 1/2" x 1" -1 1/2"-1 1/4"-2" 3" x 1 1/4"-2"-2 1/2" 4" x 1 1/4"-2"-2 1/2"-3" 5" x 1 1/4"-2"-2 1/2"-3"-4" 6" x 2" -3"-4"-5" 8" x 3" -4"-6"	2" x 1 1/4" 2 1/2" x 2" 3" x 2" 4" x 2" -3" 5" x 2" -3" -4" 6" x 4" -5" 8" x 4" -6"
Fig. G-615 Y Branch 60°		
1" x 1 1/2" 1" x 2" 1" x 2"-3" 1" x 2"-3"-4" 1" x 2"-4"-5" 1" x 4"-6"		

For Price Lists, see Pages 182-185.

Automatic Cellar Drainer

Operating power may be either city water pressure or steam.

(If steam is to be used, state pressure.)

List Prices and Capacities

Size No.	List Price	Supply Pipe	Discharge Pipe	Gallons per Hour 3 ft. to 18 ft. Elevation Minimum	Maximum
R-1	\$25.00	$\frac{1}{2}''$	$1''$	80	720
R-2	40.00	$\frac{3}{4}''$	$1\frac{1}{4}''$	190	1240
L-3	55.00	1"	$1\frac{1}{2}''$	520	1650
L-4	80.00	$1\frac{1}{4}''$	2"	760	2400
L-5	110.00	$1\frac{1}{2}''$	$2\frac{1}{2}''$	1000	3200

NON-AUTOMATIC

Size No.	1	2	3	4	5
List Price.....	\$15.00	25.00	35.00	50.00	70.00

Capacities, pipe connections, etc., same as other models listed above.

N.B.—Capacities given above represent actual gallons of water removed from pit, and not the combined discharge of operating and drainage water. These capacities are governed by the height of working head and the operating water pressure.

Advantages

All parts, except strainer, are brass, and (except the float) are above water; no slime or corrosion.

A foot valve in the strainer seals the suction pipe when the drainer stops working, holding the water in all the pipes, so that it is always primed ready to start instantly. It also prevents flooding of cellar if for any reason the water pressure is insufficient to operate the ejector.

It takes up only very little space.

The operating valves open and close instantly by action of the water pressure.

No leather washers used; leather dries and causes leaks.



Fig. G-640—Model "R"
Nos. 1 and 2



Fig. G-641—Model "L"
Nos. 3, 4 and 5

For Automatic Electric Sump Pump, see page 190.



Fig. G-642.

Automatic Electric Sump Pump

Constructed of Copper and Bronze throughout

List Prices and Capacities

Size No.	1G	2G	3G	4G	5G
List Prices.....	\$87.50	110.00	130.00	160.00	195.00
Pipe Connections.....	1"	1 $\frac{1}{4}$ "	1 $\frac{1}{4}$ "	1 $\frac{1}{4}$ "	1 $\frac{1}{4}$ "
Depth of Sump.....	2'0"	2'0"	4'0"	6'0"	8'6"
Height of Pump.....	3'5"	3'7 $\frac{1}{4}$ "	5'6"	7'6"	9'10"
Approximate Capacity in Gallons per hour					
Against Discharge Head	1 foot	1200	3000	3000	3000
	5 feet	1000	2500	2500	2500
	10 feet	750	2000	2000	2000
	15 feet	500	1500	1500	1500
Size Motor.....	20 feet	..	600	600	600
	H.P.	$\frac{1}{6}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$

Above table applies to 60 cycles Alternating Current and Direct Current only. Capacity and Discharge Head are slightly reduced when pump is equipped with 50 or 25 cycle motor.

The MERCURY SWITCH supplied with this Motor is dependable and particularly adapted to float operation; it has no mechanical contacts to wear or spark and is mounted in heavy bakelite box, providing complete insulation for all wiring.

Special detailed booklets mailed on application.

“Penberthy” Hydraulic Ejector

This fitting is designed to meet conditions where the water pressure operating the same is from 15 to 200 pounds and the elevation or discharge does not exceed 50 feet. All details are proportioned to give the highest efficiency under these conditions, with a minimum operating water consumption.



Fig. G-643
Price List and Capacities (against a 10 ft. Head)

Size Number.....	62	63	64	65	66	67	68
Operating pipe connection.....	$\frac{3}{8}$ "	$\frac{1}{2}$ "	$\frac{3}{4}$ "	1"	1 $\frac{1}{4}$ "	1 $\frac{1}{2}$ "	2"
Suction "	$\frac{3}{4}$ "	1"	1 $\frac{1}{4}$ "	1 $\frac{1}{2}$ "	2"	2 $\frac{1}{2}$ "	3"
Delivery "							
Length of Ejector.....	5"	6 $\frac{3}{4}$ "	8"	9"	10 $\frac{1}{2}$ "	11 $\frac{1}{4}$ "	13 $\frac{1}{4}$ "
Capacity { 40 lbs. pressure Galls. per hour	500	900	1500	2100	3000	4200	6000
	60-80 lbs. "	"	2000	3400	4500	6000	9000
Price.....	\$10.00	15.00	20.00	25.00	35.00	50.00	70.00

Automatic Water Supply Systems

Vertical Tank System

With Electric Motor 110 Volt, 60 Cycle,
and of suitable Horse Power

Double Acting Pump

Single Cylinder 250 gallons per hour
Duplex Cylinder 500 or 600 " "

Black or Galvanized Tank

Capacity 30-42-82-120 or 215 gallons

All necessary Valves & Fittings

Prices without Tanks

Shallow Well Pump with Motor, Pressure Controller and Relief Valve.

250 gallons per hour. \$ 80.00

500 " " " 140.00

600 " " " 160.00

Motors { 110 Volt for 250 gallons.
110-220 Volt for 500-600 gallons.

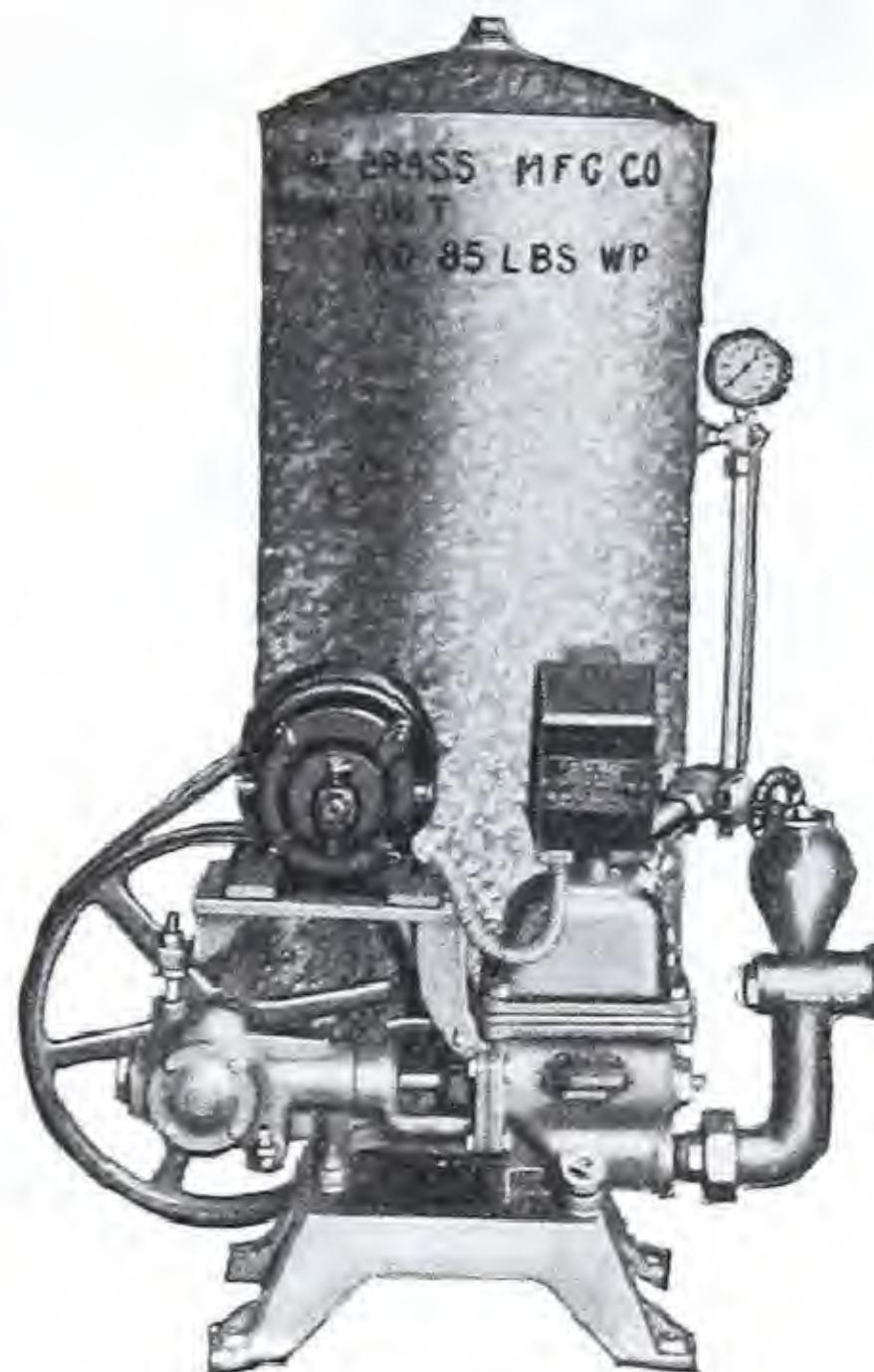


Fig. G-644

Prices on application for above Pumps
with 25 Cycle Motors.

Price complete with Shallow Well Pump, Electric Motor, Pressure Controller & Relief Valve,
Tank with Pressure Gauge, etc. Valves and Fittings

Size No.	Size of Pump	Size of Tank	Black Tank	Galv'd Tank
250-AA-2		30 gallons		\$ 95.00
250-A-2	} 250 gallons per hour	42 "	\$ 97.00	101.00
250-B-2		82 "	115.50	126.75
500-B-5		82 "	175.50	186.75
500-C-5	} 500 " " "	120 "	181.50	190.25
500-D-5		215 "	210.50	222.25
600-B-6		82 "	195.50	206.75
600-C-6	} 600 " " "	120 "	201.50	210.25
600-D-6		215 "	230.50	242.25

Special booklet, with details of all sizes, will be mailed on request

Deep well Pumps (300 ft. to 500 ft.) also supplied: Quotations on application

Automatic Water Supply Systems

Fresh Water Shallow Well Pump

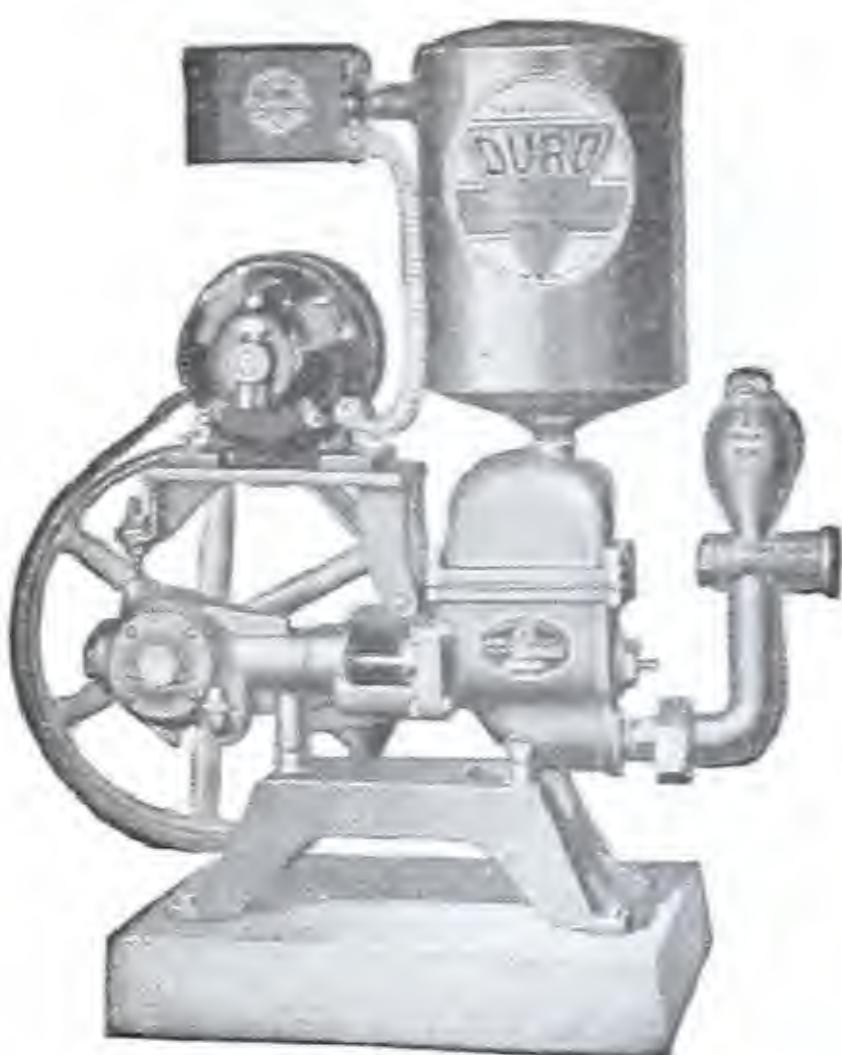


Fig. G-645

For small country residences and summer resort bungalows, rural filling stations, camps, etc. where fresh water direct from a well is required and not exceeding 250 gallons per hour.

Price complete with Shallow Well Pump, Electric Motor 110 Volt, 60 Cycle, $\frac{1}{4}$ H.P., Automatic Pressure Controller, Relief Valve, etc. small non-storage pressure Tank; Capacity 250 gallons per hour. \$85.20

Special booklet, with details of other systems to suit all requirements, will be mailed on request.

PITCHER SPOUT PUMP

Iron—Open Spout



Fig. G-646
Also supplied with Closed Spout

Fig. G-646—Open Spout

Size No.	1	2	3	4
Cylinder	2 $\frac{1}{2}$ "	3"	3 $\frac{1}{2}$ "	4"
Suction	1"	1 $\frac{1}{4}$ "	1 $\frac{1}{2}$ -1 $\frac{1}{4}$ "	2-1 $\frac{1}{2}$ "
Price	\$4.25	4.75	5.25	6.25

Closed Spout

Size No.	1	2	3	4
Cylinder	2 $\frac{1}{2}$ "	3"	3 $\frac{1}{2}$ "	4"
Suction	1"	1 $\frac{1}{4}$ "	1 $\frac{1}{2}$ -1 $\frac{1}{4}$ "	2-1 $\frac{1}{2}$ "
Price	\$4.50	5.00	5.75	6.75

Fig. G-647
Diam. Cylinder 3"
Suction Pipe 1 $\frac{1}{4}$ "
87.50



Fig. G-647

Pumps

Semi-Rotary "Clock" Force Pumps

Double-Acting

Size No.	0	1	2	3	4	5
Suction and Discharge	$\frac{1}{2}''$	$\frac{3}{4}''$	$1''$	$1\frac{1}{4}''$	$1\frac{1}{4}''$	$1\frac{1}{2}''$
Gallons per minute	4 $\frac{1}{2}$	7	9	11	15	20
Iron Case Brass fitted	\$ 9.00	10.00	12.00	14.50	18.00	20.00

Prices of "Threefold-Acting" and "Fourfold Acting" on application.



Fig. G-648

Hydraulic Ram

Size Number	2	3	4	5	6
Supply per min. to operate Ram, Gals.	2	4	6	12	25
Size Drive Pipe	$\frac{1}{4}''$	$1''$	$1\frac{1}{2}''$	$2''$	$2\frac{1}{2}''$
Length Drive Pipe	5 to 6 times the height of supply				
Discharge	$\frac{1}{2}''$	$\frac{1}{2}''$	$\frac{3}{4}''$	$1''$	$1\frac{1}{4}''$
Price	\$32.00	33.30	41.60	52.00	81.00

This Ram is used for elevating and conveying water to almost any desired distance, depending on the "head" (or amount of fall.)

The Ram will work even if the spring or brook is only 18 inches higher than the Ram.

The greater the height of the "source of the water supply" above the Ram, the more powerfully will the Ram operate, and the water can be delivered to a greater elevation and a greater distance.

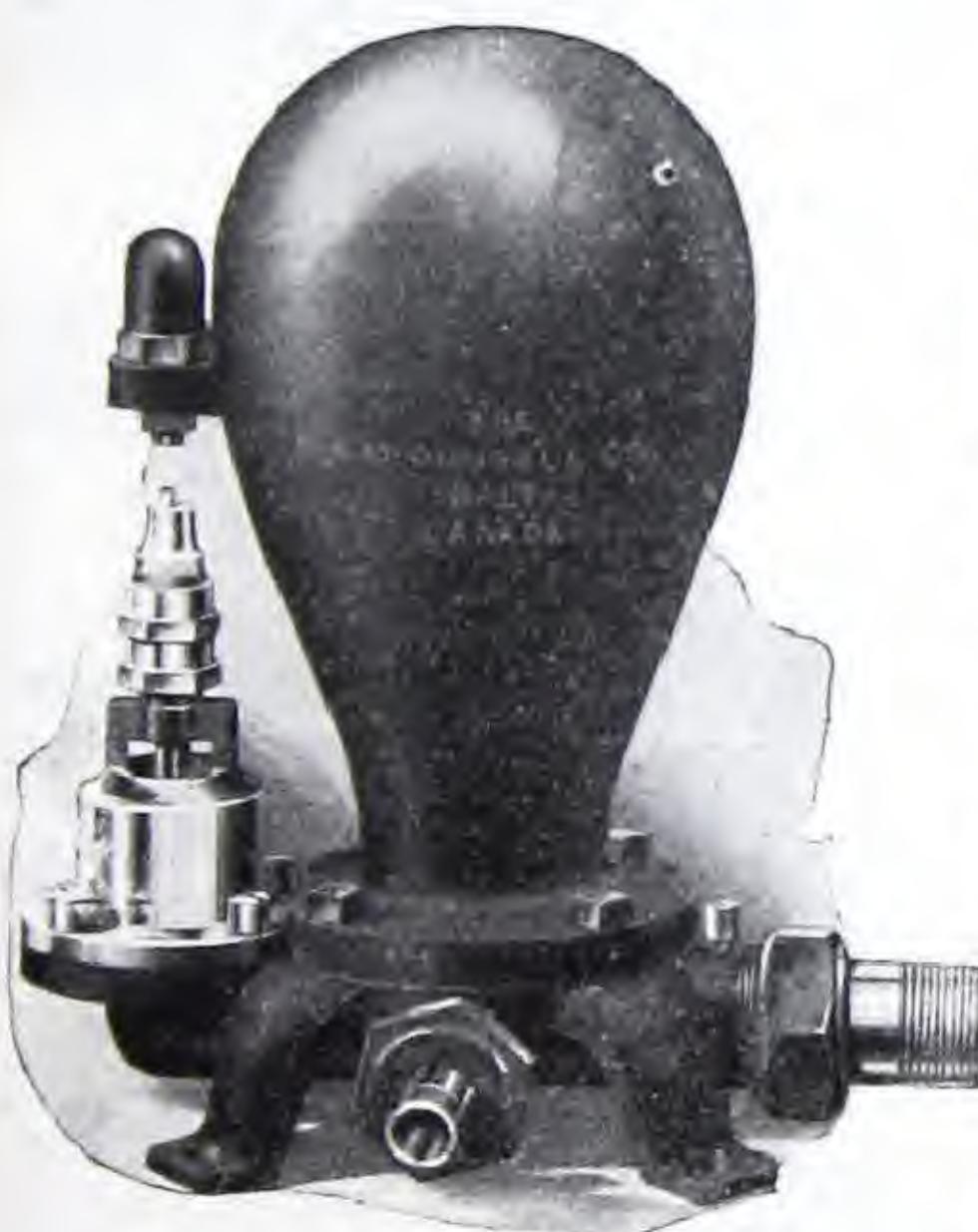


Fig. G-649

Specification and price will be furnished on receipt of details of conditions and requirements.

Iron Body Pump Valves — Leather Clapper

HORIZONTAL
CHECK VALVE

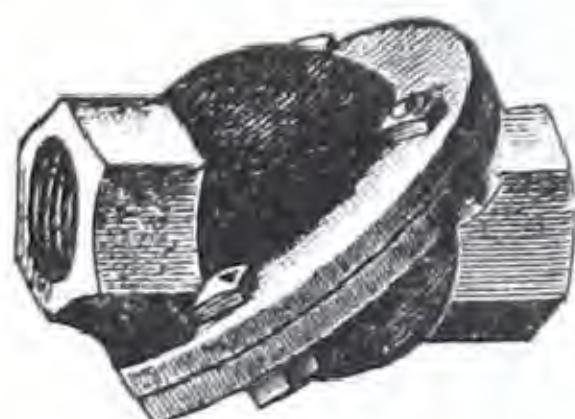


Fig. G-650

VERTICAL
CHECK VALVE



Fig. G-651

FOOT VALVE
Screwed or Flanged



Fig. G-652—Screwed
For Sizes and Prices

See below

Size	1"	1 $\frac{1}{4}$ "	1 $\frac{1}{2}$ "	1"	1 $\frac{1}{4}$ "	1 $\frac{1}{2}$ "
Black	\$2.50	3.00	4.00	\$1.20	1.50	1.80
Galv'd.	3.60	4.20	6.00	1.70	2.00	2.60

Fig. G-652, Size, inches	$\frac{3}{4}$	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	4	5	6	8
Screwed	Black	\$1.15	1.30	1.40	1.90	2.40	3.30	3.90	5.60	7.30	11.25	14.75
	Galv'd.	1.75	2.00	2.10	2.85	3.60	5.00	5.75	8.50	11.00	16.75	22.00
Flanged	Black	..	..	..	..	3.50	4.50	5.75	7.50	9.50	14.00	17.50
	Galv'd.	..	..	..	..	5.50	7.00	9.00	12.00	15.00	22.00	27.00
" Extra for drilling	..	..	..	..	0.75	0.75	0.75	1.00	1.25	1.50	1.75	2.25

"Q" FOOT VALVE



Fig. G-653

Fig. G-653—"Q" Foot Valve

Size, inches	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$	3	4	5	6
Black, each	1.90	2.25	2.65	3.00	5.25	9.00	17.25	30.00	37.50

Iron Pump Cylinder (Not illustrated)

Size	2 $\frac{1}{2}$ "x10"	2 $\frac{1}{2}$ "x12"	3"x10"	3"x12"	3"x14"	3 $\frac{1}{2}$ "x12"	4"x16"
For Iron Pipe Each	1 $\frac{1}{4}$ " \$5.00	1 $\frac{1}{4}$ " 5.60	1 $\frac{1}{4}$ " 5.20	1 $\frac{1}{4}$ " 5.80	1 $\frac{1}{4}$ " 7.80	1 $\frac{1}{4}$ " 7.80	2" 9.00

Prices for "Brass Lined" and for other sizes on application.

Iron Pump Plunger (Not illustrated)

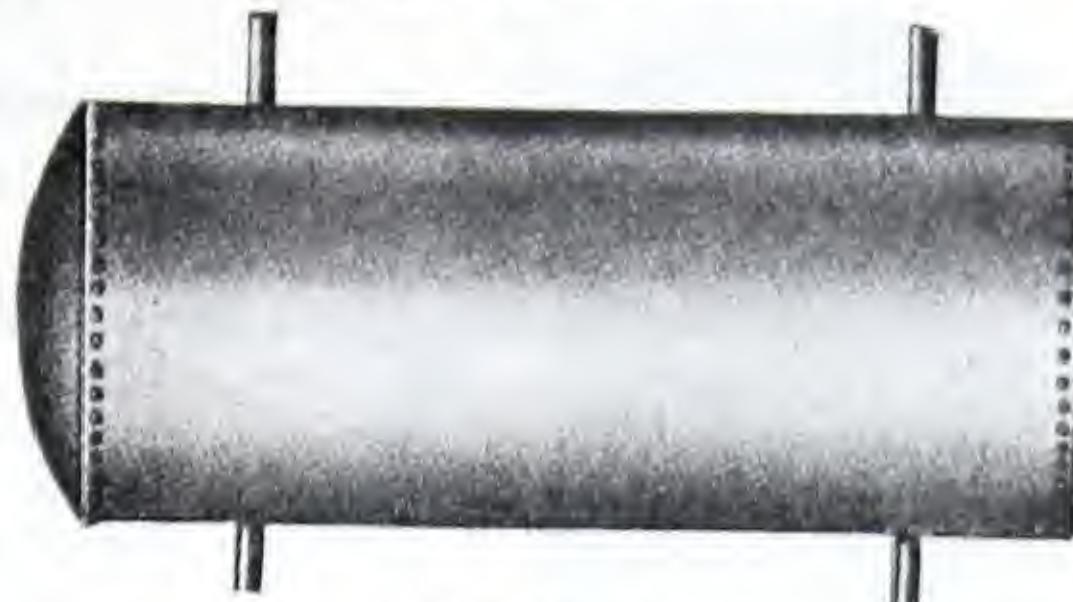
Size	2"	2 $\frac{1}{4}$ "	2 $\frac{1}{2}$ "	2 $\frac{3}{4}$ "	3"	3 $\frac{1}{2}$ "	4"
Each	\$ 1.20	1.20	1.20	1.30	1.30	1.50	2.00

Prices are for Plungers only with Cup Leathers (no rods)

THOMAS ROBERTSON & COMPANY, LIMITED

Steel Storage Tanks

Black or Galvanized



Prices include 4 Standard Tappings.

Manholes and Handholes EXTRA

Fig. G-654

Prices of Electric Welded

Diam. and Length, feet	1½x3	1½x4	1½x5	1½x3	1½x4	1½x5	1½x6	2x4	2x5	2x6	2x8	2x10
Capacity U.S. Gallons.	32	42	52	40	53	66	80	100	120	140	192	235
Approx. Weight, Lbs.	100	130	160	125	155	180	210	220	260	298	470	575
Price Black \$	33.00	37.00	40.00	41.00	43.00	45.00	50.00	53.00	58.00	64.00	77.00	95.00
" Galvanized	42.00	47.00	55.00	52.00	56.00	61.00	72.00	71.00	78.00	87.00	107.00	110.00

Dia. & Lgth, ft.	2½x5	2½x6	2½x7	2½x8	2½x10	2½x12	3x5	3x6	3x7	3x8	3x10
Cap'y U.S. Gal.	180	220	250	295	365	432	270	315	365	420	525
Approx. Wgt. Lbs.	412	472	532	595	712	832	560	650	715	790	930
Price Black . . .	\$76.00	82.00	94.00	110.00	124.00	142.00	95.00	104.00	120.00	127.00	146.00
" Galvanized	116.00	128.00	140.00	174.00	198.00	222.00	190.00	200.00	215.00	240.00	280.00

Dia. and Lgth, ft.	3x12	3x14	3½x8	3½x10	3½x12	3½x14	3½x16	4x8	4x10	4x12	4x14	4x16
Capacity U.S.Galls.	635	740	575	720	865	1000	1150	750	1000	1130	1300	1500
Approx. Wg't. Lbs.	1075	1225	965	1145	1320	1500	1670	..	..	..	..	..
Price Black \$	180.00	205.00	210.00	230.00	262.00	294.00	326.00	..	..	..	..	..
" Galvanized	330.00	350.00	..	..	..	..	..	..	..	..	..	..

Prices on application.

Prices of Extra Heavy Double Riveted

Diam. and Length, feet .	2x4	2x5	2x6	2½x5	2½x6	2½x7	2½x8	3x6	3x7	3x8
Capacity U.S. Gallons . . .	100	120	140	180	220	250	295	315	365	420
Approx. Weight Lbs.	290	340	390	421	505	588	615	695	820	900
Price Black \$	84.00	92.00	98.00	108.00	114.00	140.00	166.00	172.00	192.00	224.00
" Galvanized	118.00	132.00	144.00	166.00	180.00	210.00	240.00	248.00	272.00	314.00

Diam. and Length, feet	3x10	3½x7	3½x8	3½x10	4x10	4x16	5x14	5x20	5x34
Capacity U.S. Gallons	525	500	575	720	1000	1500	2000	3000	5000
Approx. Weight Lbs.	1050	1450	1500	1625	2000	2800	3600	5000	7800
Price Black \$	260.00	278.00	290.00	340.00	432.00	570.00	648.00	804.00	1180.00
" Galvanized	420.00	446.00	490.00	582.00	732.00	..	..	..	..

On application.

Enquiries should state for what purpose Tank is required (Hot or Cold Water or Oil or Air) and the Working Pressure

Range Boilers--Galvanized and Copper

GALVANIZED BOILERS

Working Pressure: "Standard" 85 lbs., "Ex. Heavy" 150 lbs.



Fig. G-655—Vertical
Also supplied with
lower opening 6'
above bottom

Capacity U.S. gall.	Dimensions Inches	Approximate Weight		PRICE		Extra for Coils
		Standard	Ex. Heavy	Standard	Ex. Heavy	
10	12 x 20	32 lbs.		\$15.00		
18	12 x 36	42 lbs.	48 lbs.	15.00		
30	12 x 60	70 "	90 "	15.00	18.00	24.00
35	14 x 48	75 "	97 "	18.00	21.30	28.00
40	14 x 60	84 "	106 "	20.20	23.40	32.00
52	16 x 60	114 "	128 "	34.00	38.20	36.00
66	18 x 60	158 "	181 "	49.40	56.80	45.00
82	20 x 60	178 "	194 "	56.20	59.50	55.00
100	22 x 60	198 "	217 "	69.00	77.50	65.00
120	24 x 60	218 "	243 "	77.50	89.00	75.00
144	24 x 72		258 "		123.00	85.00
168	24 x 84		275 "		138.00	100.00
192	24 x 96		303 "		156.00	115.00

Prices include five regular tappings

Size.....	1"	1 $\frac{1}{4}$ "	1 $\frac{1}{2}$ "	2"
Prices for Extra or Special tappings	\$3.20	4.90	4.90	4.90

CAST IRON BOILER STANDS

Size.....	12"	14"	16"	18"	20"	22"	24"
Each.....	\$3.40	4.20	4.50	5.00	5.40	8.40	10.00

Adjustable Type 12" to 14"..... \$ 1.20

GALVANIZED EXPANSION TANKS 10 Gallon or 15 Gallon Each \$ 15.40

COPPER RANGE BOILERS

Reinforced and Riveted

Approx. Capacity U.S. Gallons	25	30	40	50	60	70	80	90	100	125	150
Diameter & Length. Inches.....	12x48	12x60	14x60	16x60	17x60	18x60	20x60	20x66	20x72	22x72	25x72
Stand., 200 lbs. Test For 85 lbs. Work. P..	\$60.00	72.00	96.00	120.00	144.00	168.00	192.00	216.00	240.00	300.00	360.00
Heavy, 250 lbs. Test For 106 lbs. W. P..	70.00	84.00	112.00	140.00	168.00	196.00	224.00	252.00	280.00	350.00	420.00
Ex. Hea., 300 lbs. T. For 127 lbs. W. P..	90.00	108.00	144.00	180.00	216.00	252.00	288.00	324.00	360.00	450.00	540.00

Prices for larger sizes quoted on application.

Gas Water Heaters

The "CHIEF"

Non-Automatic low-price, high-quality, storage water heater, strongly built of the best material, galvanized inside and outside.

Designed to get the most heat possible out of the gas used.

Made in 5 sizes

Size No.	15	20	25	30	35
Capacity of Storage					
Tank. Gallons	5	12	17	24	32
Price.	\$50.85	50.85	53.30	60.70	90.20

Extra for "REX" Dual Burner \$3.90

The centre 12-port Burner maintains the temperature, and the main burner is available for any abnormal demand.



Fig. G-657—"Rex" Dual Burner



Fig. G-656

Gas Water Heaters (*Continued*)

The "RIVAL" - Automatic



Fig. G-658—"Rival"

with double extra heavy tank, made of welded steel and galvanized, with outer shell aluminum finished. Rockwool insulation $1\frac{1}{2}$ " thick. Steel top and base and cast iron legs finished in black japan. Every Heater fitted with Snap-action Thermostat which instantaneously turns the gas supply on or off, ensuring a positive automatic control.

Made in 5 Sizes

Size, No.	0	1	2	3	4
Capacity of Storage Tank, gallons	12	18	24	32	50
Price	\$113. 20	121. 35	131. 20	170. 60	265. 70

If furnished with Safety Pilot Control & Patrol Relief Valve

Size No.	10	11	12	13	14
Capacity of Storage Tank, gallons	12	18	24	32	50
Price	\$129. 60	137. 75	147. 60	188. 60	282. 10

The Patrol Valve shuts off Gas main if the pilot light goes out, and can only open again when the pilot is again lighted. A security against the danger from escaping gas.

The "SOLAR"

Double Copper Coil

Made of special heat-resisting cast iron, with double seamless copper coils

Made in 6 sizes

Size No.	20	25	31	35	40	50
Price	\$15. 40	22. 00	16. 40	22. 00	23. 60	25. 10

When ordering Gas Water Heaters please state how many Bath, Basin, and Sink fixtures have to be supplied with Hot Water.

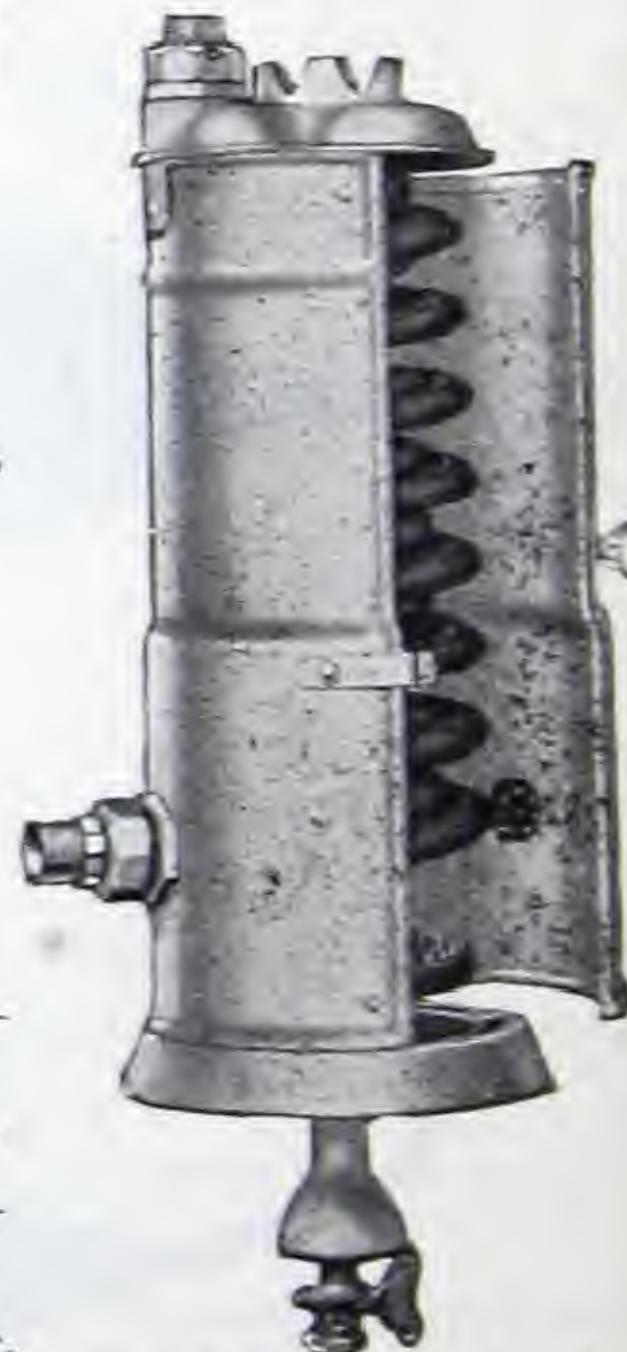


Fig. G-659—"Solar"

“Sirdar” Tank and Laundry Heaters

TANK HEATERS

Size No.	Nom. Diam. Grate	Outlets Inches	Capacity Gallons	List Price without Base Plate	List Price with Base Plate
T-00	10"	1-1½	60	...	\$45.00
T-0	10"	1-1½	90	...	63.00
T-101	10"	1-1½	140	...	73.00

These 3 Heaters have Slide Centre Grate.

B-10	12"	3-1½	190	\$120.00	\$130.00
B-12	12"	3-1½	210	143.00	155.00
B-20	15"	3-2	380	164.00	176.00
B-22	15"	3-2	425	203.00	215.00
B-30	18"	3-2	600	210.00	225.00
B-32	18"	3-2	660	249.00	264.00

These 6 Heaters have Rocking Grate.

B10-B32 Heaters will be supplied without Bottom Base Plates unless otherwise ordered. Base Plates are required when the Heaters are set on wood or other inflammable floors.



Fig. G-660

Nos. T-00, T-0, T-101

(See Fig. G-665 for illustration of Sizes B-10 to B-32)

LAUNDRY HEATERS

Size No.	Nominal Diameter Grate	Size of Top	Outlets inches	Capacity Gallons *	List Price
“BRONCO”					
No. 8	8"	14"x20"	1-1"	40	\$35.00
No. 9	8"	15"x21½"	1-1"	40	36.50

“YORK” with Ashpan

No. 8	8"	14"x20"	1-1"	40	38.00
No. 9	8"	15"x21½"	1-1"	40	40.00

“TORO”

No. 8-D	10"	14"x20"	1-1½"	100	60.00
No. 9-D	10"	15"x21½"	1-1½"	100	63.00

These 6 Heaters have Slide-Centre Grate.



Fig. G-661

“York” or “Bronco”

* The above ratings are based on raising the quantity of water stated in gallons 25 degrees Fahrenheit per hour for eight consecutive hours on one full charge of hard coal as fuel.

Round Hot Water Heating Boilers



Fig. G-662—"SIRDAR"

← The "SIRDAR"

Made in 23 sizes

Heating Capacity from 200 to 2000

Square feet. Net Rating

For full details of Dimensions,
Ratings, and Prices, see our
Special "Sirdar" Heating Catalogue

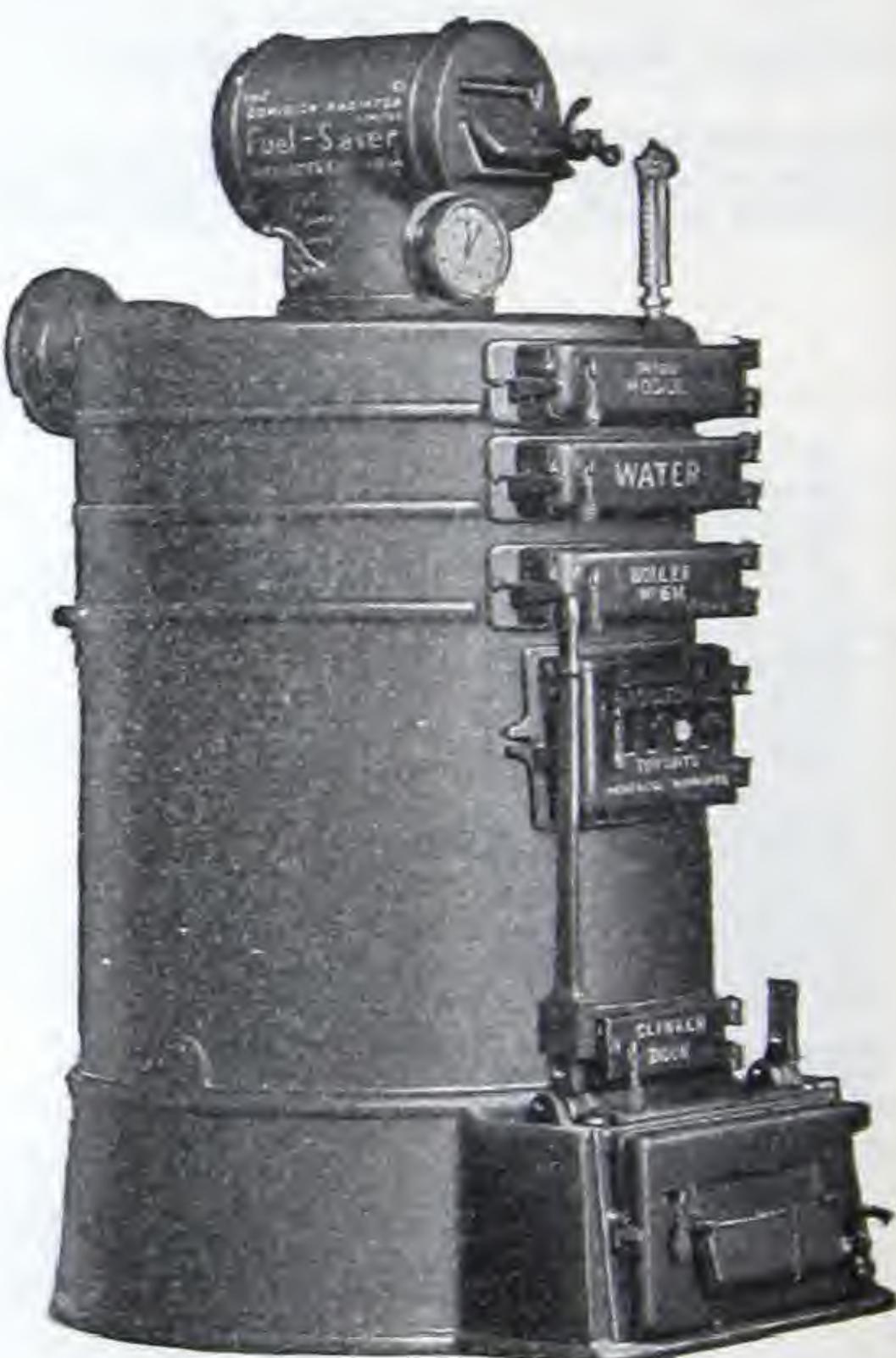


Fig. G-663—"MOGUL"

The "MOGUL" →

Made in 17 sizes

Heating Capacity from 250 to 2665

Square feet. Net Rating

For full details of Dimensions,
Ratings, and Prices, see our
Special "Sirdar" Heating Catalogue

Sectional Heating Boilers

The "IDEAL-SECTIONAL"

Made in 24 sizes

Hot Water Boiler: Heating Capacity from 1000 to 15,400 sq. ft. Net Rating
also

Steam Boiler: Heating Capacity from 600 to 9,375 sq. ft. Net Rating

*For Hard or Soft Coal, or
Buckwheat Coal or Oil Burning.*

For full details of Dimensions,
Ratings, and Prices, see our
Special "Sirdar" Heating Catalogue

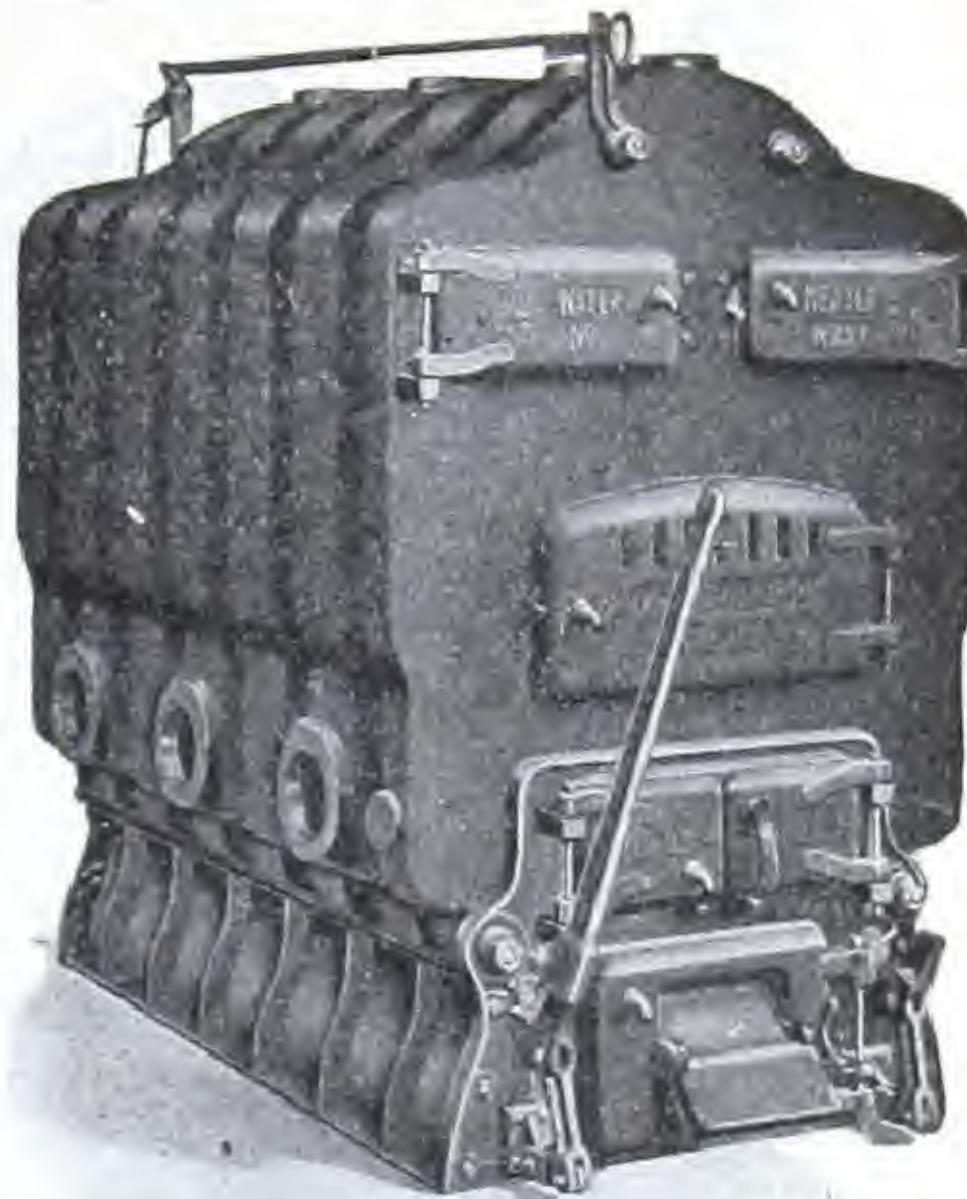


Fig. G-664—"IDEAL-SECTIONAL"



Fig. G-665—"BUNGALOW"
Nos B 10, 12, 20, 22, 30, 32.

The "SIRDAR-BUNGALOW"

Hot Water Heater

Made in 6 sizes

Heating Capacity from 150 to 600
square feet. Net Rating

*These Bungalow Heaters heat the room in
which they are installed, as well as the
circulating pipes and Radiators in
adjoining rooms.*

For Ratings and Prices,
see Fig. G-660, page 199.

"Ideal-Arco" Water and Steam Boilers



Fig. G-666 Steam Boiler

Made in 18 sizes

Heating Capacity from 300 to 1650
square feet, Gross Rating

This "Ideal-Arco" Steam Boiler is designed to provide quick heat generation (by means of the "Third Rear Nipple" construction), rapid circulation, and economy in fuel consumption, with a minimum amount of attention.

For full details of Dimensions.

Ratings, and Prices, see our
Special "Sirdar" Heating Catalogue.



Fig. G-667

Tapped 9" centres for SIRDAR and
ARCO Boilers; tapped 6" centres for Tank
Heaters.

Domestic Water Heaters

Prices on application



Fig. G-668

With horizontal openings for MOGUL
Boilers, and for SIRDAR-BUNGALOW
Heaters.

Warm Air Furnaces

PIPE
or
PIPELESS

Made in several different models and sizes to suit all types of Residences, Churches, Schools, Stores and other buildings.

Burns
Soft Coal
Smokelessly
Extra large
Fire Door

Large chunks of COAL or WOOD can be handled with ease.

Moisture is supplied to the air, from 7 to 10 gallons being evaporated every 24 hours.



Fig. G-669—Side View, without casing

Descriptive Booklet, Layout and Estimate furnished on request.

Domestic Water Heater

With four tappings, one in centre and three on side, to suit these furnaces

Made in 6 sizes

Prices on application



Fig. G-670

“Corto” Radiators — For Steam or Water

Made in 3, 4, 5 and 6 Columns or Tubes

Heights 20", 26", 32" and 38"

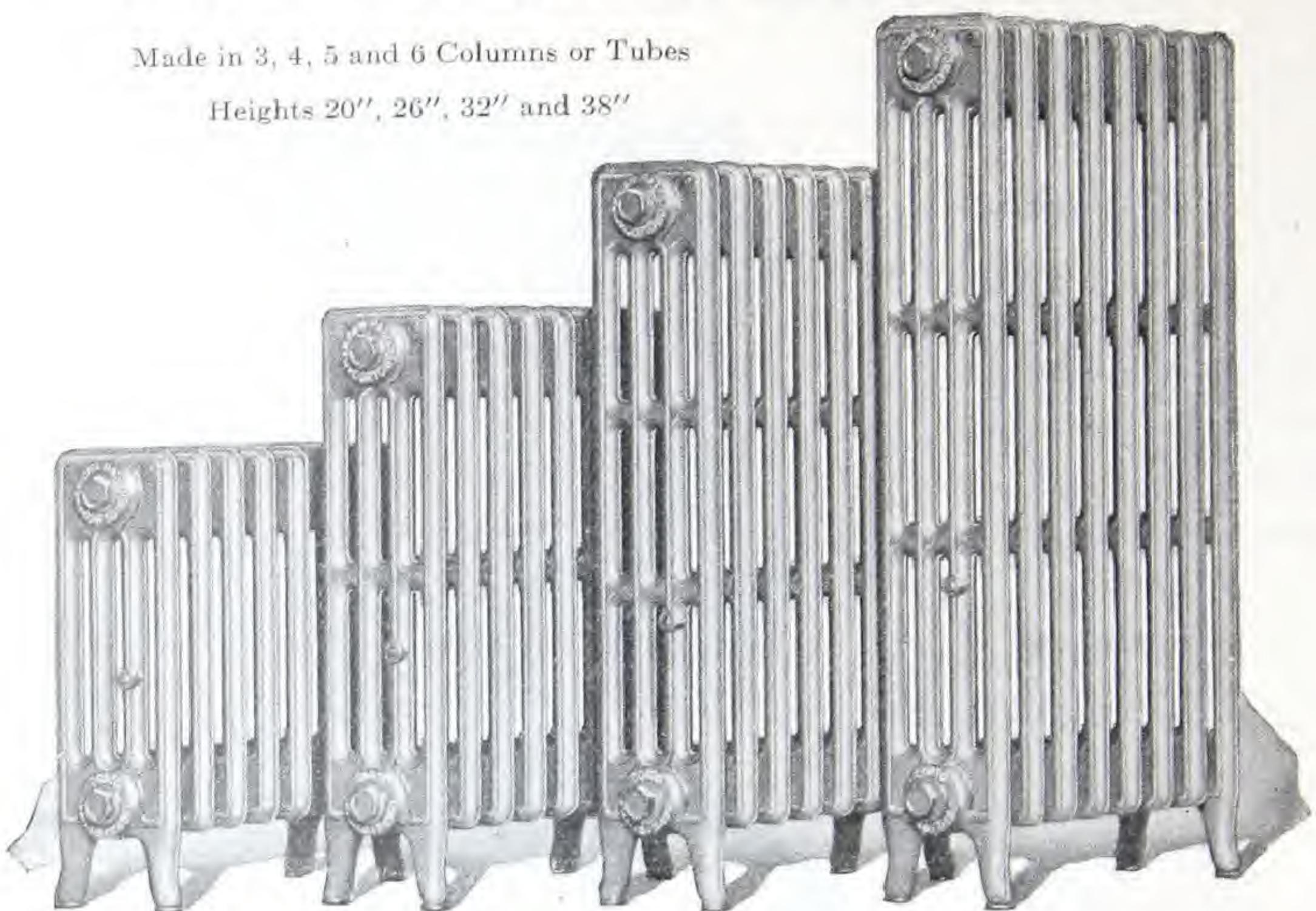


Fig. G-671—“Corto” Four-Tube Radiators



Fig. G-672—“Corto” Seven-Tube Window Radiators

“Corto” Radiators are furnished, upon special order, with 6-inch legs.

For illustrations of our complete line of Radiators, Tables of Heating Surfaces, Prices, etc., see our special “Sirdar” Heating Catalogue.

Wall Radiators — For Steam or Water

“SIRDAR” Pattern

Horizontal Nos. 7-A and 9-A

Vertical Nos. 7-B and 9-B

Heating Surface Nos. 7-A and 7-B is 7 Sq. ft.

“ “ “ Nos. 9-A and 9-B is 9 Sq. ft.

“Sirdar” Wall Radiators should always be installed with the bars vertical to secure the best results.

For measurements, methods of assembling, tappings, and price, see our special “SIRDAR” Heating Catalogue.

We supply Wall Brackets of several kinds to suit the different local conditions.

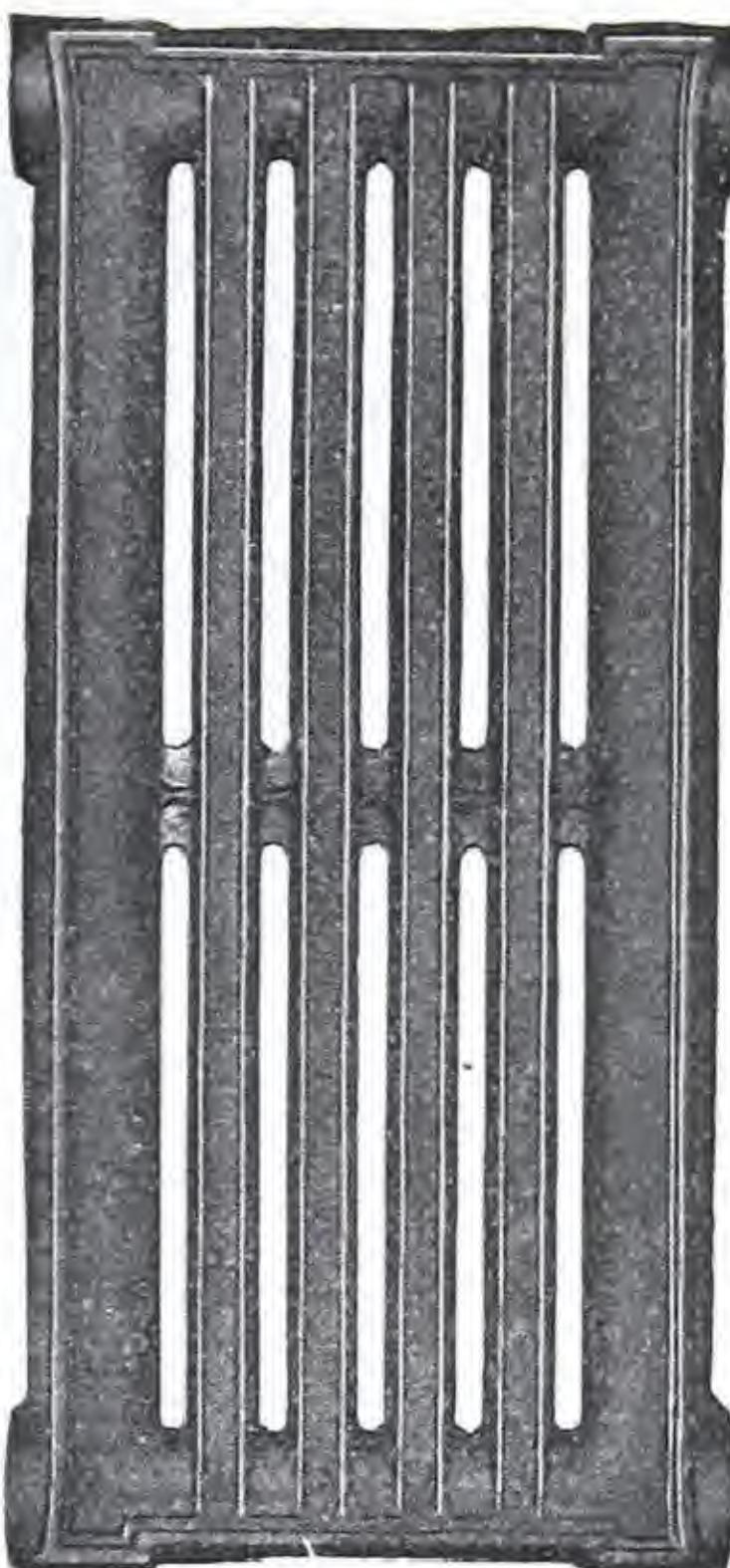


Fig. G-673—Vertical 9-B.

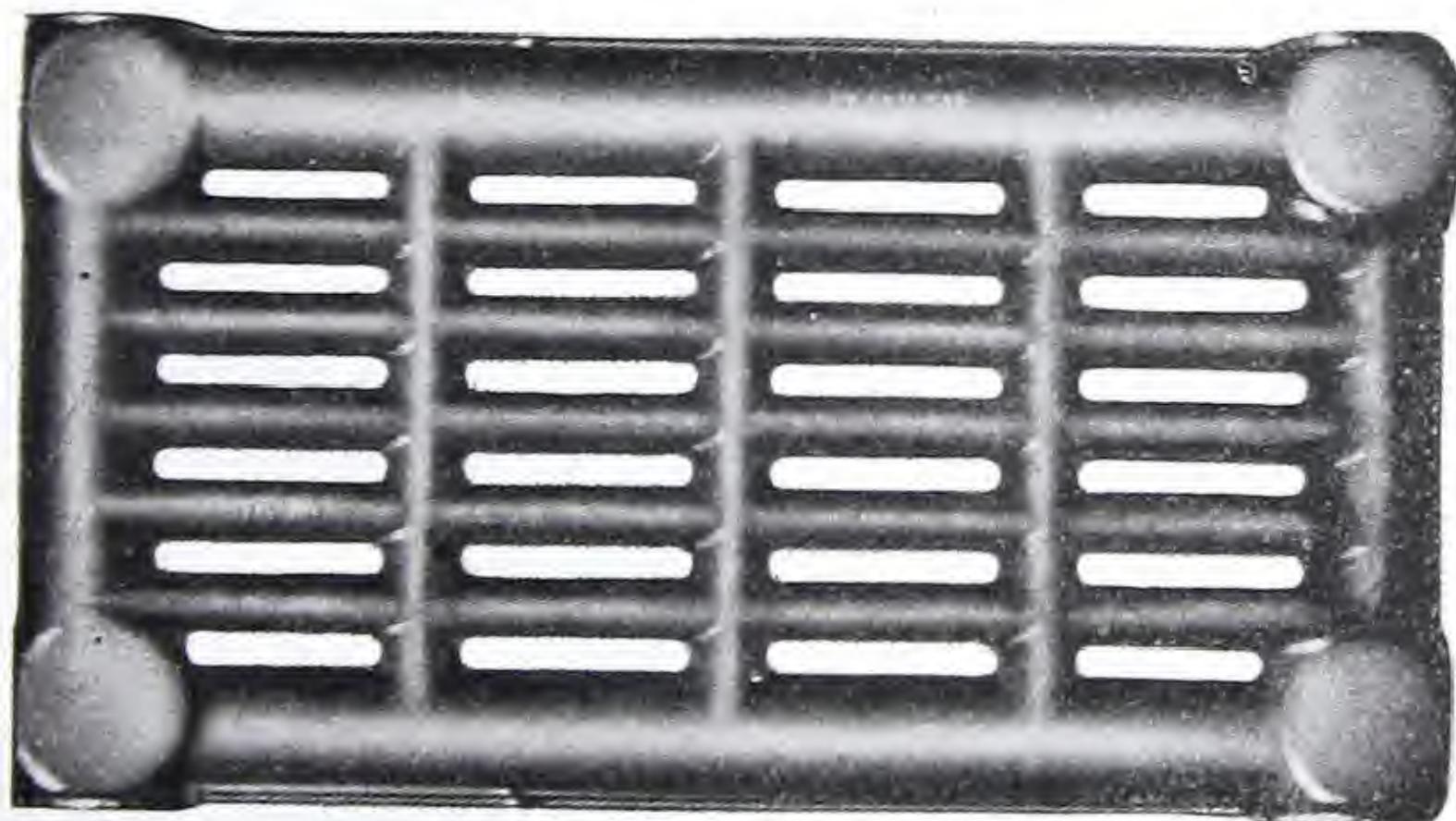


Fig. G-674—12 ft. Section hung horizontally

“ONTARIO” Pattern may be hung horizontally or vertically. Orders should state how they will be hung, and the tappings will be as required. Made in 4 sizes, Heating Surface 5, 7, 9 or 12 Sq. Ft. Prices on application.

“Pembroke” Enamelled Iron Baths



Fig. G-675—For Recess.

Lengths 4'6", 5'0" and 5'6"; Nickel-plated or Chrome-plated fittings.
Also supplied with "New Art" supply and drain fittings, Chrome plated.



Fig. G-676—For Left Hand Corner

Corner Baths

Lengths 5'0" and 5'6"

With various types of
supply and drain fittings

Nickel-plated or Chrome-plated

Corner Baths

Lengths 5'0" and 5'6"

Illustration shows exposed
"Bell" supply and drain fittings
Nickel-plated or Chrome-plated



Fig. G-677—For Right Hand Corner

Special Catalogue of Bath and Shower Fixtures furnished on request.

**“Pembroke”
Enamelled
Iron Baths**

WHITE or COLORED

Recess Baths
with R. H. or L. H. outlet

*Fittings Nickel Plated or
Chrome Plated*

Length of Bath
4'6", 5'0", or 5'6"

Supplied with “New Art” supply and drain fittings, Chrome plated, if desired.

*Special catalogue
furnished on request.*

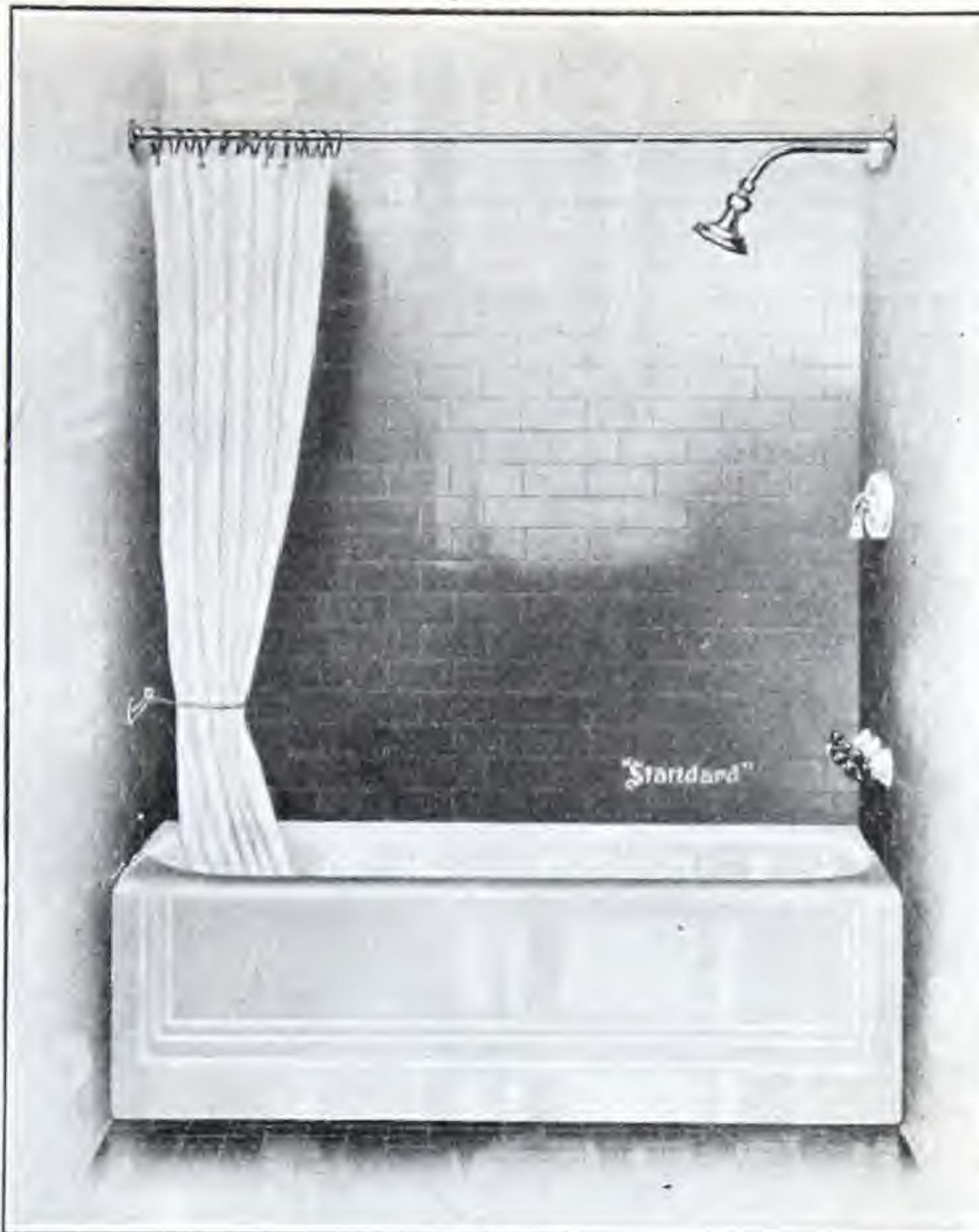


Fig. G-678

“Indus” Enamelled Bath on Feet



Length
4'0", 4'6",
5'0", 5'6"
and 6'0"

Fittings
supplied
Nickel
or
Chrome
Plated.

Fig. G-679—Supplied 30" wide or 26" wide overall.

Chinaware Lavatories

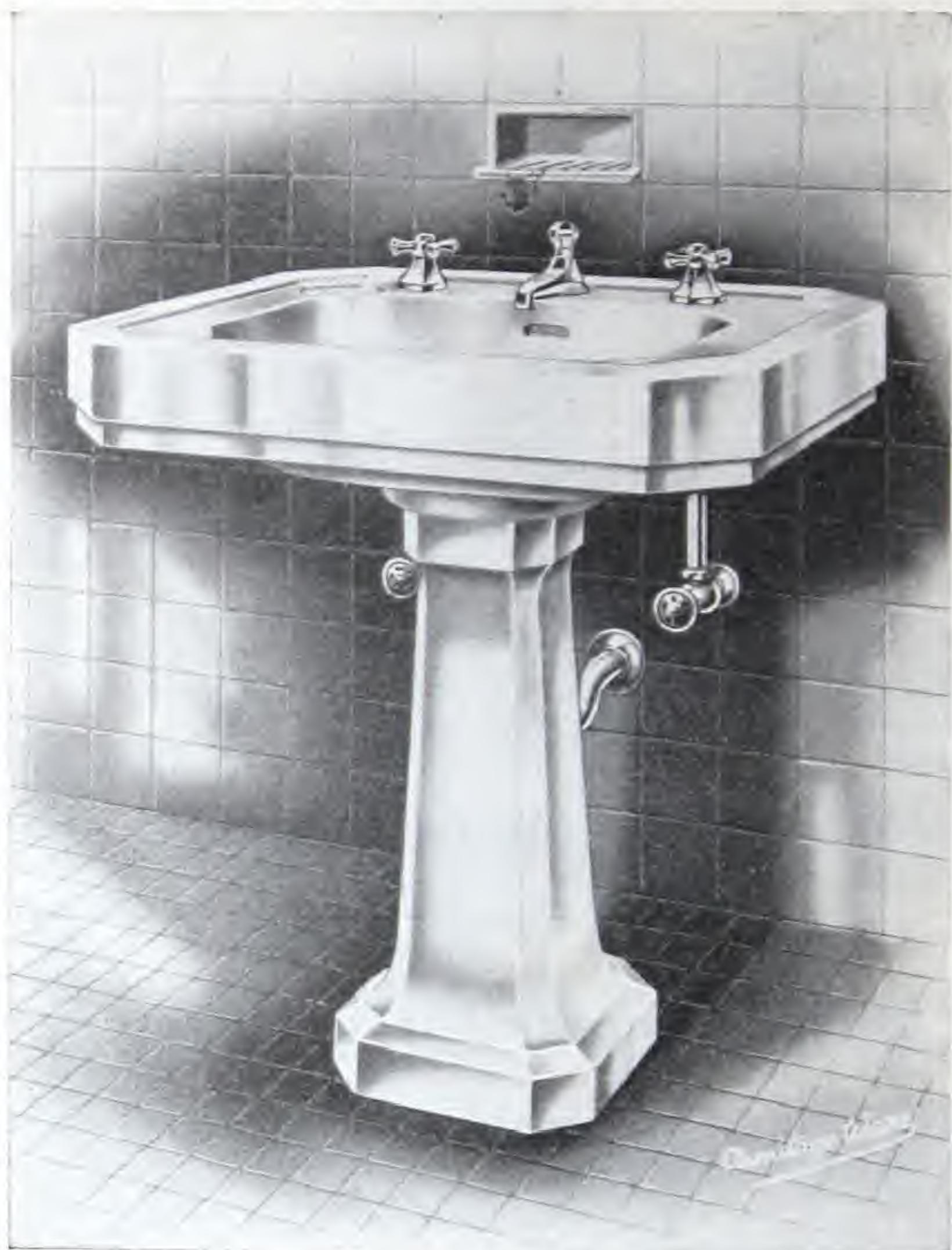


Fig. G-680

Made in three sizes 27" x 22", 24" x 20" and 20" x 18"

This Lavatory is also supplied on Leg or on Brackets

Furnished with Nickel-plated, or Chrome-plated, or Gold-plated fittings

*We have a large selection of Pedestal Lavatories
and Leg Lavatories, with or without Back Skirting*

Special Catalogue of Bath, Shower & Lavatory Fixtures,
Waterclosets, and Wall Fittings, furnished on request

Chinaware Lavatories



Fig. G-681.

"Space-Saver" Hanging Lavatory 26" x 14" with Nickel or Chrome plated fittings.



Fig. G-682.

Heavy Vitreous Ware,
in two sizes
18" x 15" and 17" x 20"
with Nickel or Chrome
plated fittings

Special Catalogue of
Lavatory Fixtures
mailed on request.

Enamelled Iron Lavatories



Fig. G-683

Made in three sizes

24" x 19" 21" x 18" 19" x 17"

Compression or Self-closing Faucets

Fittings Nickel-plated or Chrome-plated



Fig. G-684



Fig. G-685

Fig. G-685 Two sizes.

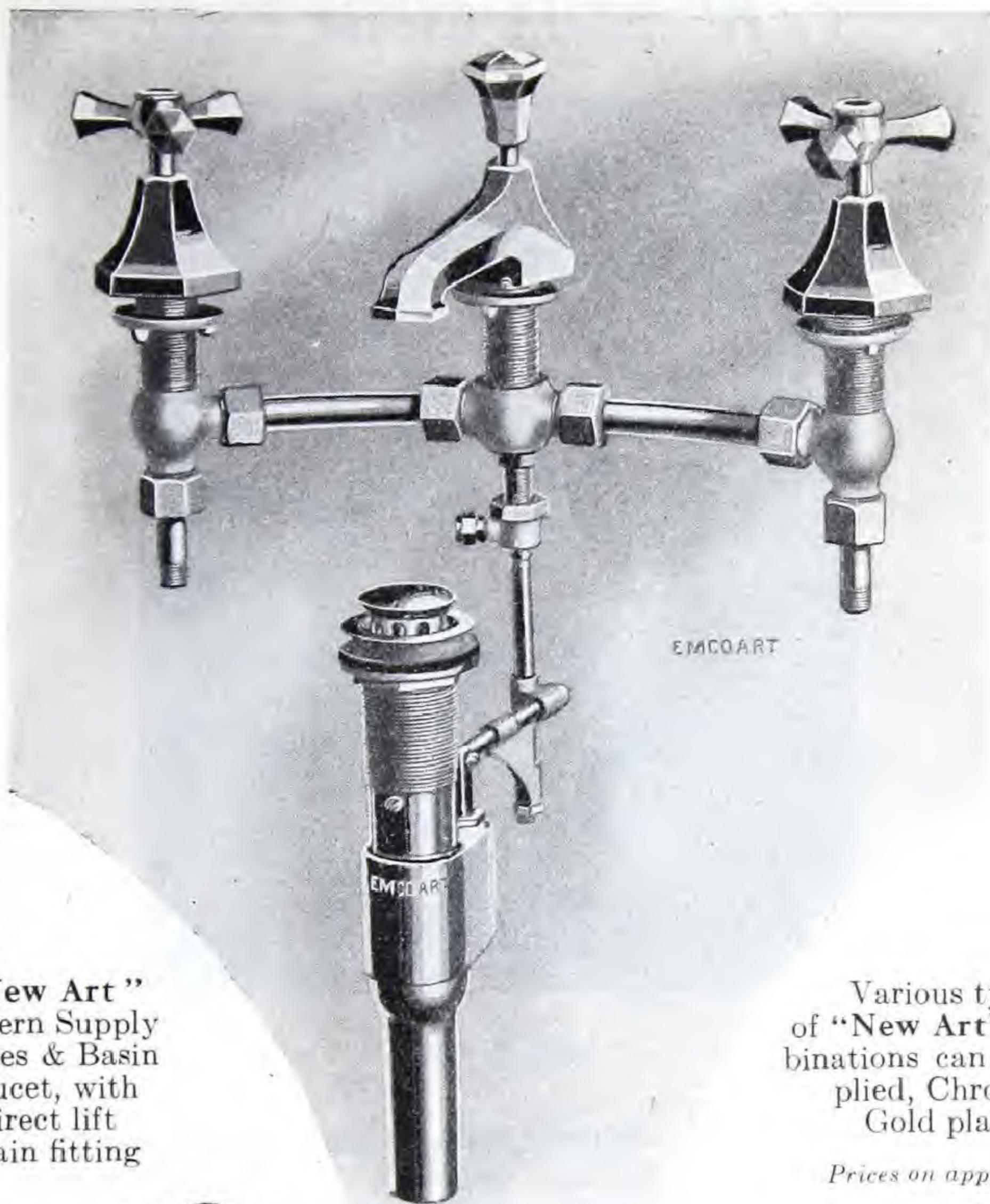
19" sides and 16" sides

Compression or Self-closing Faucets

Fittings Nickel-plated or
Chrome-plated

Special Catalogue of Lavatory
Fixtures mailed on request.

Chrome Plated Lavatory Fittings



"New Art"
Pattern Supply
Valves & Basin
Faucet, with
direct lift
Drain fitting

Various types
of "New Art" com-
binations can be sup-
plied, Chrome or
Gold plated.

Prices on application

Fig. G-686.

High Grade
Standard Basin
Faucets, (Heavy,
Medium, or Midget
Sizes) Nickel or
Chrome plated.



Fig. G-687.—Compression



Fig. G-688.—Self-Closing

“T/N” Silent Closet Fixture



Fig. G-689

A one-piece fixture, made of the highest grade vitreous china. No tank to attach to wall: only two connections, outlet from bowl and supply to tank: quiet in operation, powerful flushing action and thoroughly cleansing: cover fastened to tank: white Pyralin covered seat and cover: chrome plated fittings.

Supplied in White or Colored Ware

Complete catalogue of Plumbing Fixtures mailed on application.

Closet Fixtures with Low Tanks



Fig. G-690

BOWLS of Chinaware, Syphon Jet type or Wash-down syphonic action with reverse trap.

SEATS of White Pyralin or White Duco finish; Black Rubwood or Whaleboneite; Oak or Mahogany.

LOW TANKS of Chinaware or Vitro Composition (White or Oak finish) or Golden Oak.

WHITE or COLORED CHINASURE

Nickel-plated or Chrome-plated Fittings

Complete Catalogue of Baths, Lavatories, Sinks,
Closets, Fountains, etc. will be mailed on request

Closet Fixtures with Flush Valve



Fig. G-691

BOWLS of Chinaware, Syphon Jet type or Wash-down syphonic action, back inlet or top inlet or side inlet.

SEATS of Black Rubwood or Whaleboneite, White Pyralin or White Duco finish, with Open Fronts, Cut-out Backs, or Closed Fronts.

VALVES of "Marine", "Royal", or "Teck" pattern with Lever Handles or Push Button or Foot Action, as preferred.

WHITE or COLORED CHINAWARE
Nickel-plated or Chrome-plated Valves and Fittings

We also supply our "COLLEGIATE" School Pattern
Wash-down Syphonic Bowls with Seat-Action Flush Valve

Enamelled Iron Sinks & Laundry Tubs

Roll Rim Sink

and 8" Back in one piece.

Nickel-plated or

Chrome-plated Faucets

Sizes

18" x 24" 18" x 30"

20" x 30" 20" x 36"

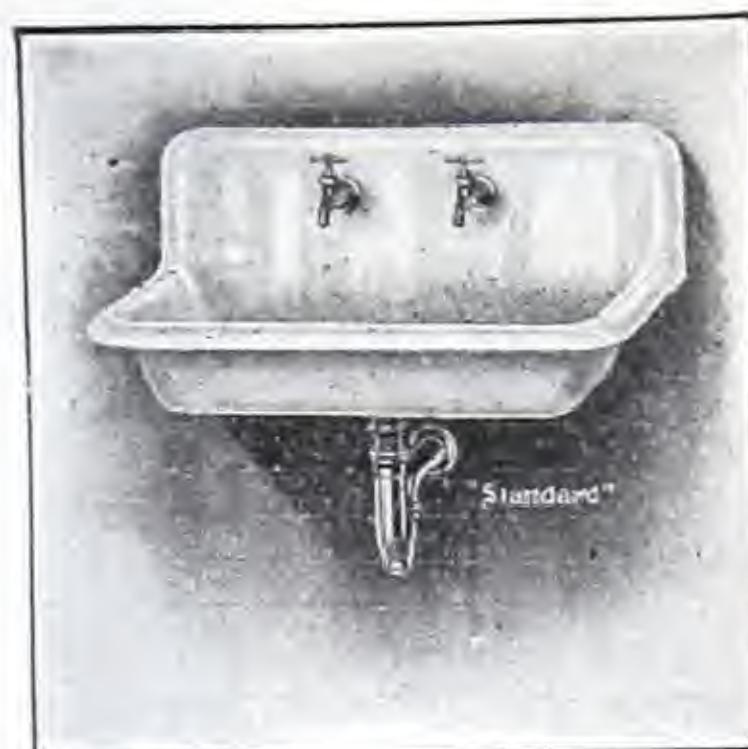


Fig. G-692

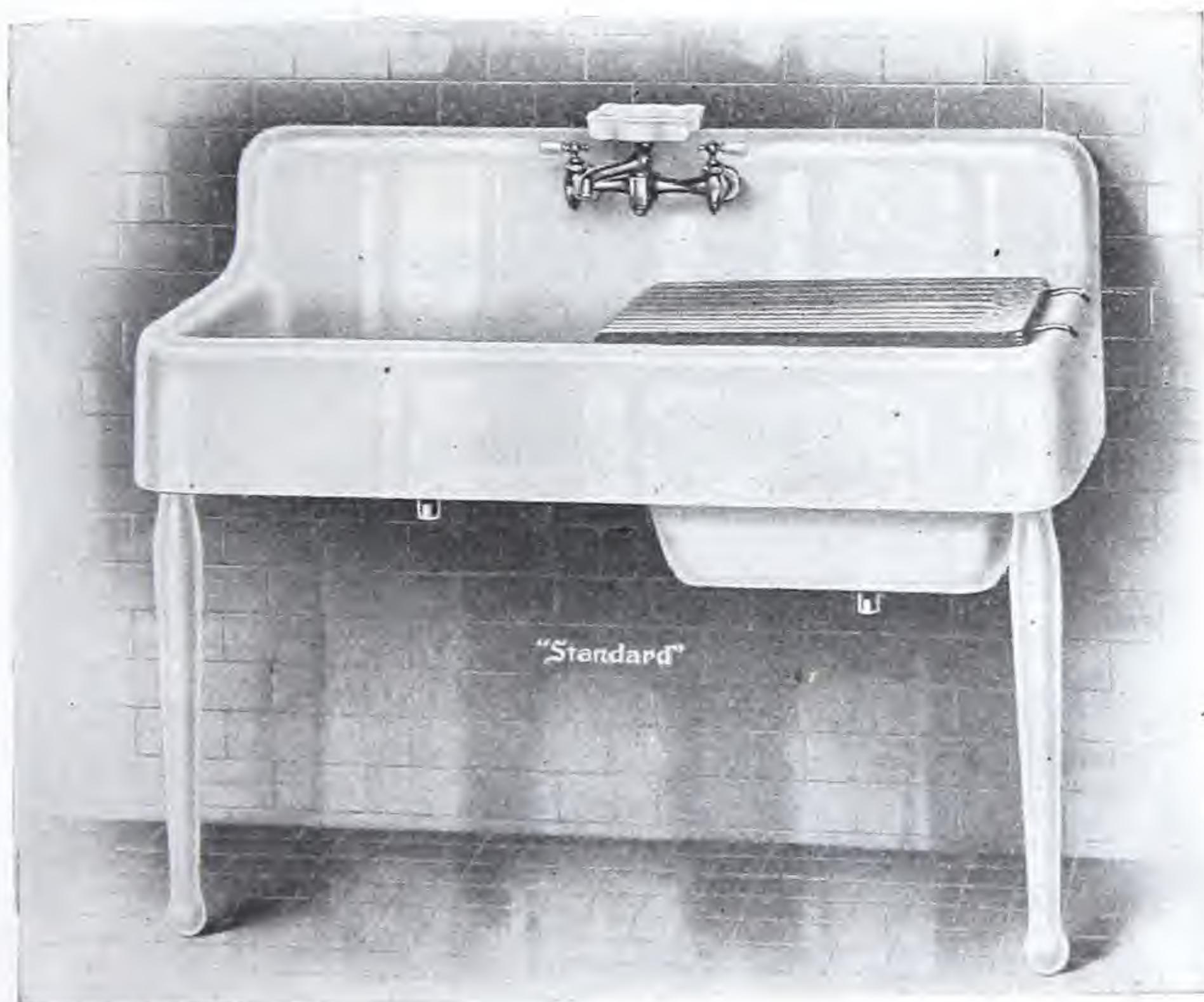


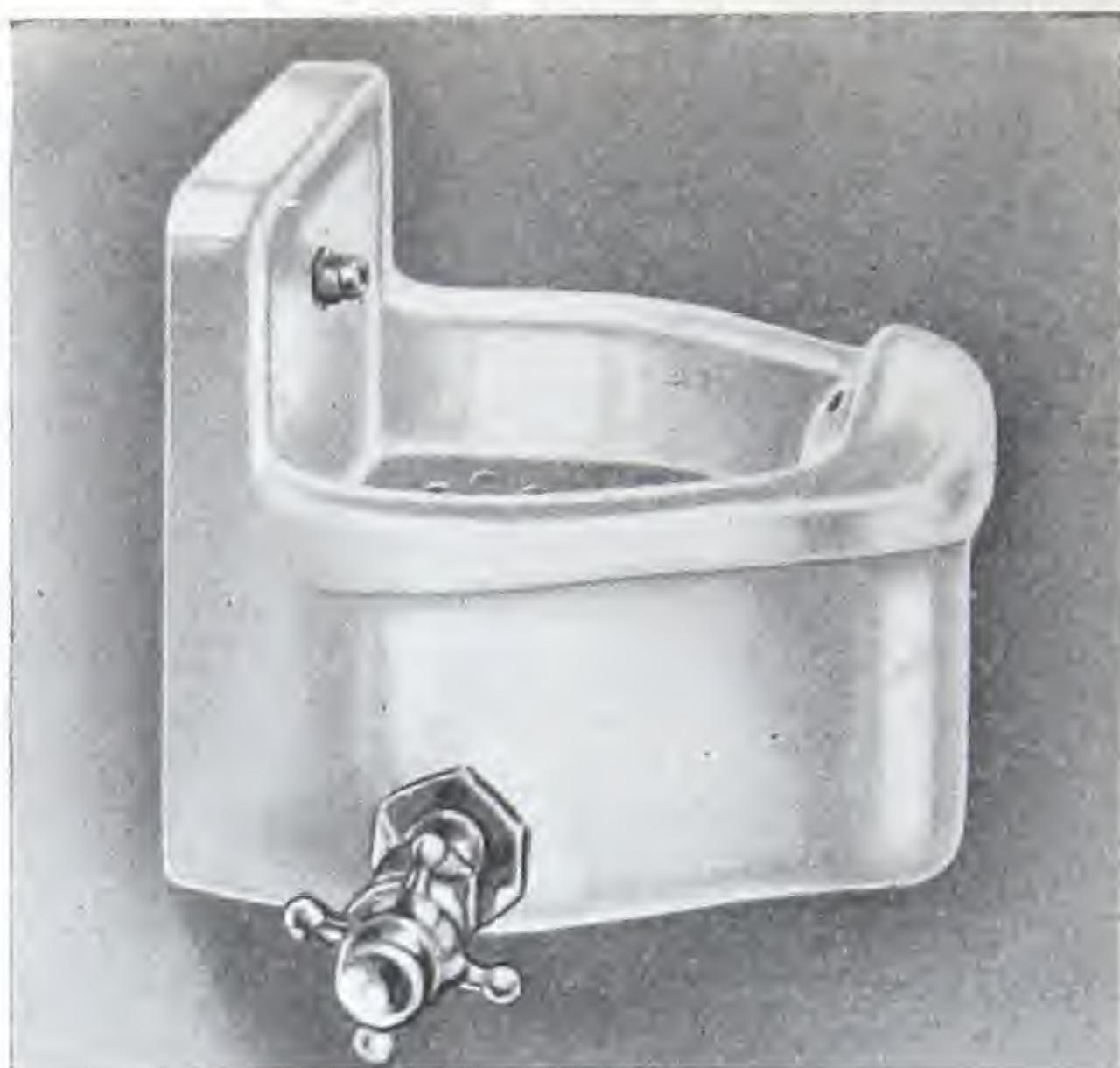
Fig. G-693

Combination Sink and Laundry Tub in one piece 22" x 36" and 22" x 42"

Complete Catalogue of Sinks, Laundry Tubs, Slop Sinks &c.
on application

Drinking Fountains

Vitreous China
with integral
angle nozzle
and cowl:
 $7\frac{1}{2}'' \times 10''$.



Self-closing
valve and re-
gulating stop;
Exposed metal
fittings
Chrome plated.

Fig. G-694.

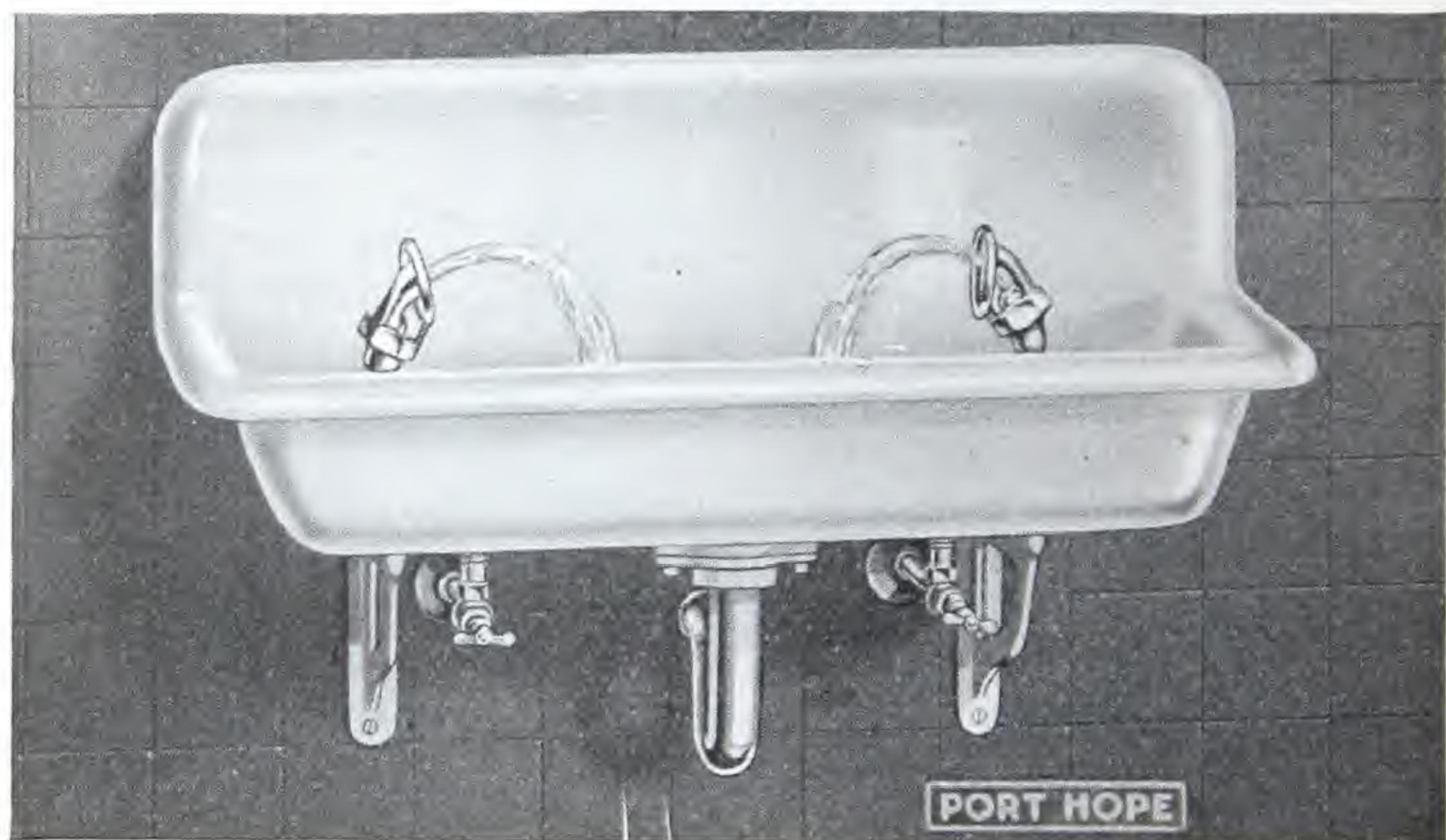


Fig. G-695.

Enamelled Iron Fountain in one piece, with concealed hangers. Angle jets and regulating stops, Chrome plated. Length 36", 48" or 60".
Complete catalogue of Drinking Fountains, etc. on application.

Urinal Stalls

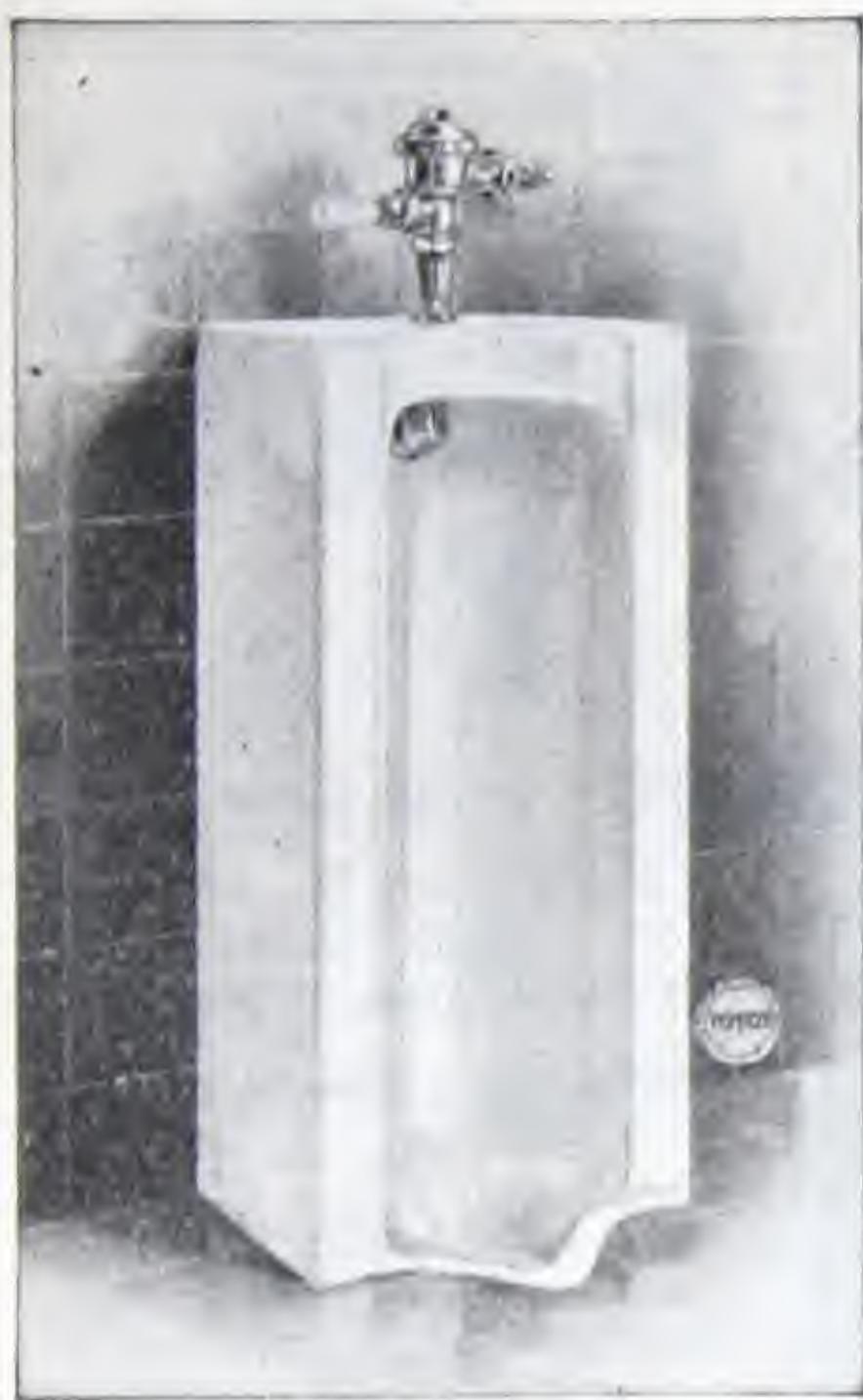


Fig. G-696

Vitreous Ware Stalls are made 18" wide, with semi-extended shields and with integral flushing rim.

All Stalls can be supplied either with Automatic Flushing Tank (for single Stall and for batteries) or with Individual Flush Valves.

All exposed Valves & Fittings Nickel or Chrome Plated.

White Vitreous Ware & Porcelainware

Porcelainware Stalls are made in two standard sizes, 18" wide and 24" wide.

Supplied with Straight Fronts or with Extended Shields



Fig. G-697

Complete catalogue of Plumbing Fixtures mailed on request.

Plumbers' Brass Goods

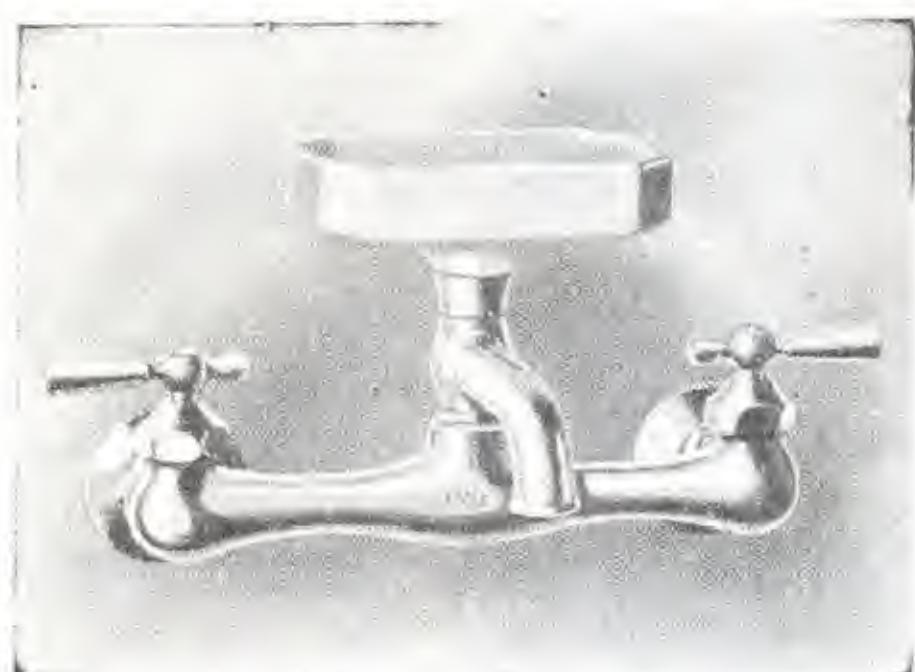


Fig. G-698

Combination Hot & Cold Sink
Faucets (Self-closing Hot Faucet
& Compression Cold).
Nickel or Chrome plated



Fig. G-699

Combination Hot & Cold
Bath Faucets
(Lever Handles if preferred)
Nickel or Chrome plated

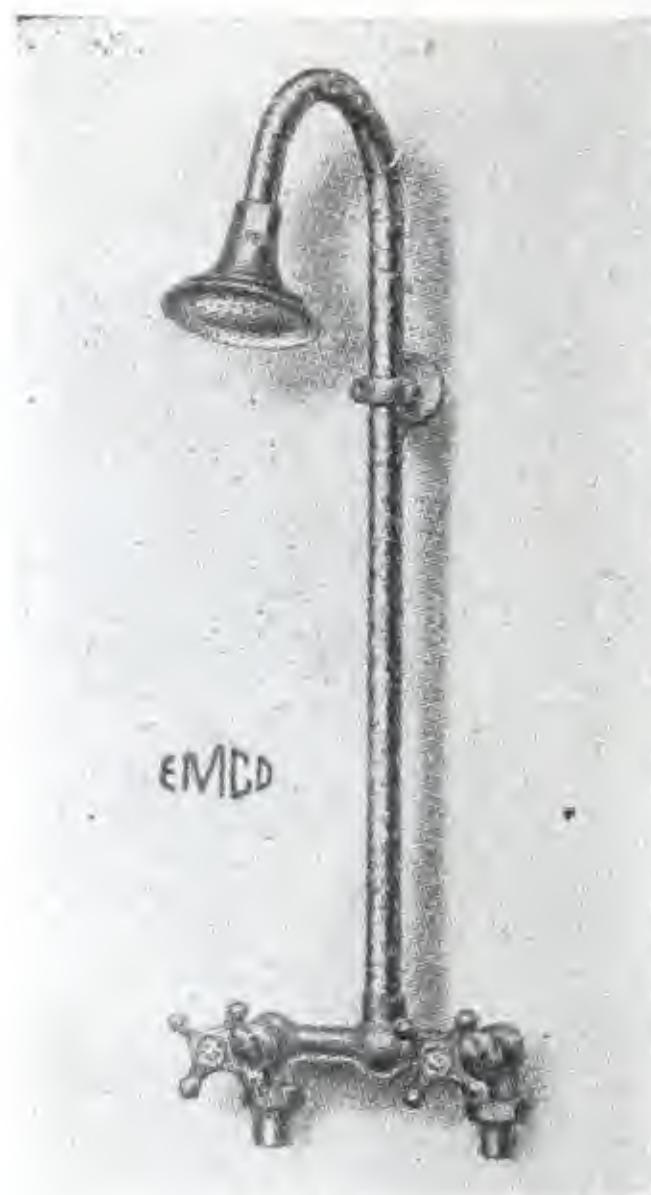


Fig. G-700
Factory type Shower Fixture



Fig. G-701
Compression, Tee Handle



Fig. G-702
Tee Handle, Set Screw Flange



Fig. G-703
Self-closing, Ball-bearing

Plumbers' Brass Goods & Traps



Fig. G-704
Compression Stop



Fig. G-705
Compression Stop & Drain

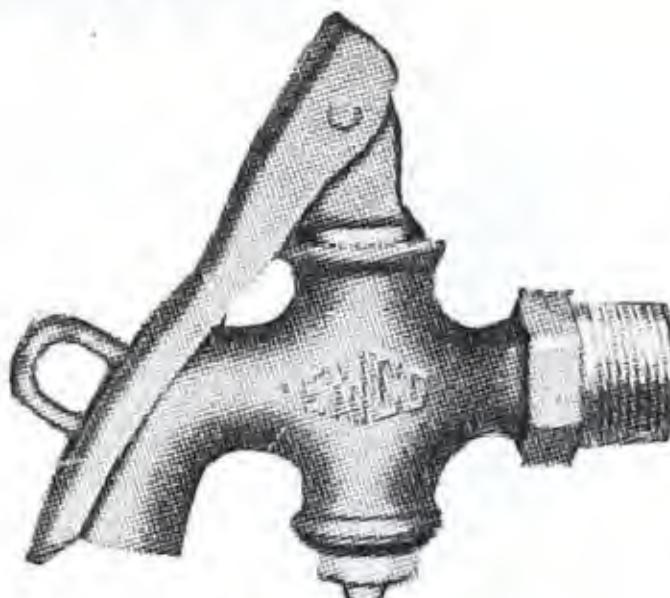


Fig. G-706
Lock Lever Oil Faucet

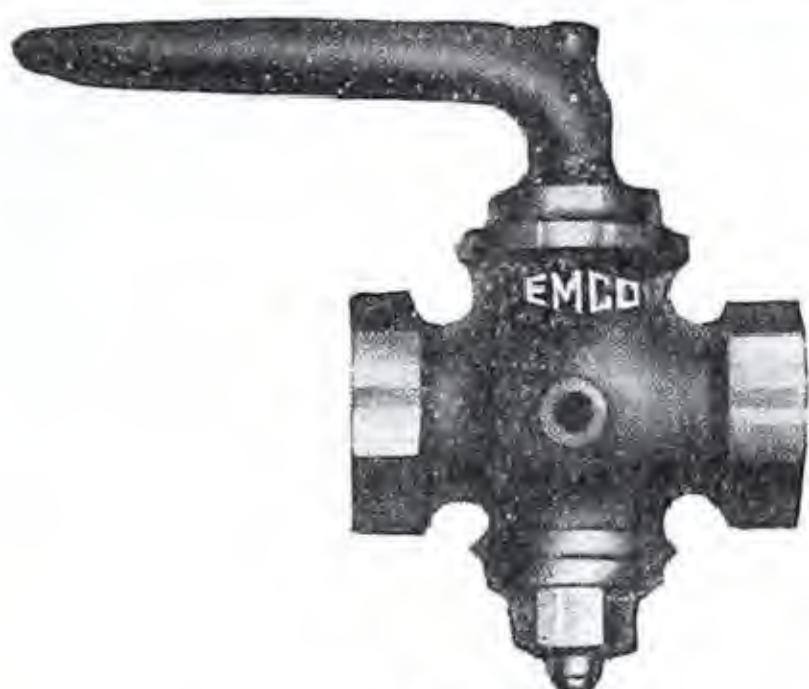


Fig. G-707
Lever Handle Stop & Drain



Fig. G-708
Cast Iron Centrifugal
Traps, "P" or "S"



Fig. G-709
Nickel or Chrome plated
Centrifugal Traps, "P" or "S"

Complete Catalogue of Plumbing Fixtures mailed on request

“Dubois” Lead Traps & Bends

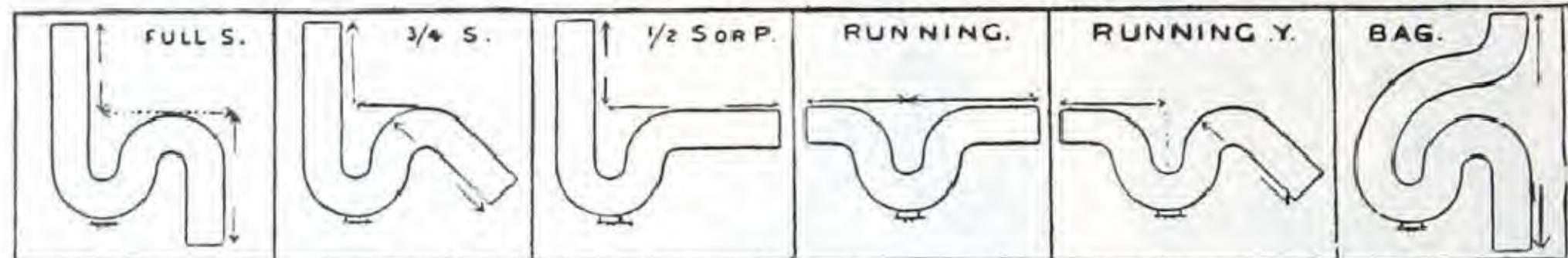


Fig. G-710



Fig. G-711

SHAPES List Prices STANDARD

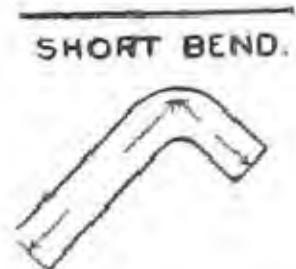


Fig. G-712

	Size..	1 1/4 in.	1 1/2 in.	2 in.	3 in.	4 in.
Full “S”.....		\$0.58	0.90	1.38	2.69	3.25
3/4 “S”.....		0.55	0.81	1.30	2.62	3.07
1/2 “S” or “P”.....		0.51	0.75	1.20	2.24	2.49
Running.....		0.48	0.72	1.13	2.09	2.53
Running “Y”.....		0.52	0.76	1.34	2.46	3.15
Bag.....		0.68	1.08	1.73	3.35	4.77
Short Bend.....		0.35	0.55	0.80	1.50	1.65
Long Bend.....		0.40	0.65	1.05	1.75	2.15
{ For extra long Traps and Bends add per inch over regular... }.....		0.04	0.06	0.08	0.12	0.15
For Vented Traps add..		0.80	0.95	0.95	1.25	1.25
Long “S” Trap, 24” over all.....		\$1.12	1.65	2.30	....	....
Long “P” Trap, Inlet 4 1/2” Outlet 14 1/4”.....		0.84	1.17	1.68	....	....



Fig. G-713
Extra Long
“S” Trap

SHAPES List Prices EXTRA HEAVY



Fig. G-714
Extra long
“S” Trap
with Vent

	Size..	1 1/4 in.	1 1/2 in.	2 in.	3 in.	4 in.
Full “S”.....		\$0.87	1.25	1.85	3.09	4.30
3/4 “S”.....		0.81	1.15	1.73	2.97	3.95
1/2 “S” or “P”.....		0.77	1.09	1.57	2.58	3.25
Running.....		0.70	1.03	1.46	2.35	3.28
Running “Y”.....		0.74	1.09	1.61	2.88	4.05
Bag.....		1.06	1.54	2.33	3.96	6.30
Short Bend.....		0.60	0.85	1.10	1.60	2.25
Long Bend.....		0.65	1.00	1.35	2.00	3.00
{ For extra long Traps and Bends add per inch over regular... }.....		0.06	0.08	0.10	0.15	0.18
For Vented Traps add Size of Vent, inches		0.80	0.95	0.95	1.25	1.25
		1 1/4	1 1/2	1 1/2	2	2

Complete catalogue of Plumbing Fixtures mailed on request

Lead Traps



Fig. G-715—Drum Trap
4'' x 8'' With Brass Flange

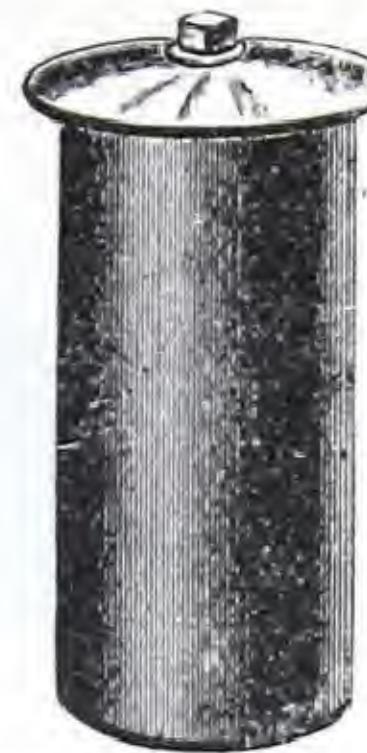


Fig. G-716—Drum Trap
4'' x 8'' With Wide N.P. Flange

Prices

Fig. G-715—each	\$ 3.80
Fig. G-716— "	4.40

These Traps can be supplied with Countersunk Covers, if desired.



Fig. G-717—“S” Trap

Prices

Size	1 $\frac{1}{4}$ "	1 $\frac{1}{2}$ "	2"
Fig. G-717.	\$ 1.35	1.75	2.50
Fig. G-718.	1.25	1.50	2.25



Fig. G-718—“P” or “½-S” Trap



Fig. G-719

Fig. G-719
Lead Running Trap
With Nickel Plated Cover

Size	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2
Each	\$ 1.55	2.00	2.50

Fig. G-720
Cast Iron Drum Trap
4" x 8 $\frac{1}{2}$ " for 1 $\frac{1}{2}$ " or 2" I.P.
Openings in any desired position
Each \$ 4.00



Fig. G-720

Asbestos Sectional Pipe Covering



Fig. G-721—(Air-Cell type)

List Prices

Inside diam. of Pipe, inches	1	2	3	4	5	6	8	10
Price Covering, per lineal foot	\$0.22	0.24	0.27	0.30	0.33	0.36	0.39	0.40
Price Covering, per lineal foot	\$0.45	0.50	0.60	0.70	0.80	1.10	1.30	

The same list prices apply to the three grades regularly supplied, namely:—

3-Ply Air-Cell Covering, for Low Pressure Steam or Hot Water Heating Pipes.

4-Ply " for Medium Pressure Steam Pipes and Cold Water Pipes.

85% Magnesia (15% Asbestos fibre) Sectional covering, for High Pressure Steam or Superheated Steam Pipes

The discounts vary according to the material required.

ASBESTOS CEMENT per 100 lb. bag, Standard Quality, \$2.50



Fig. G-722—Wick
Weight of Ball, 4 ounces

Fig. G-722 Asbestos Wick

Price per lb. \$ 0.85

Fig. G-723 Asbestos Mill Board

Price per lb. \$ 0.20

Asbestos Paper (In Rolls)

Thickness $\frac{1}{16}$ " to $\frac{1}{4}$ " Per lb. 0.20



Fig. G-723

Size of Sheets 40" x 40"
Thickness $\frac{1}{16}$ ", $\frac{3}{32}$ ", $\frac{1}{8}$ ", $\frac{3}{16}$ " & $\frac{1}{4}$ "

Packings

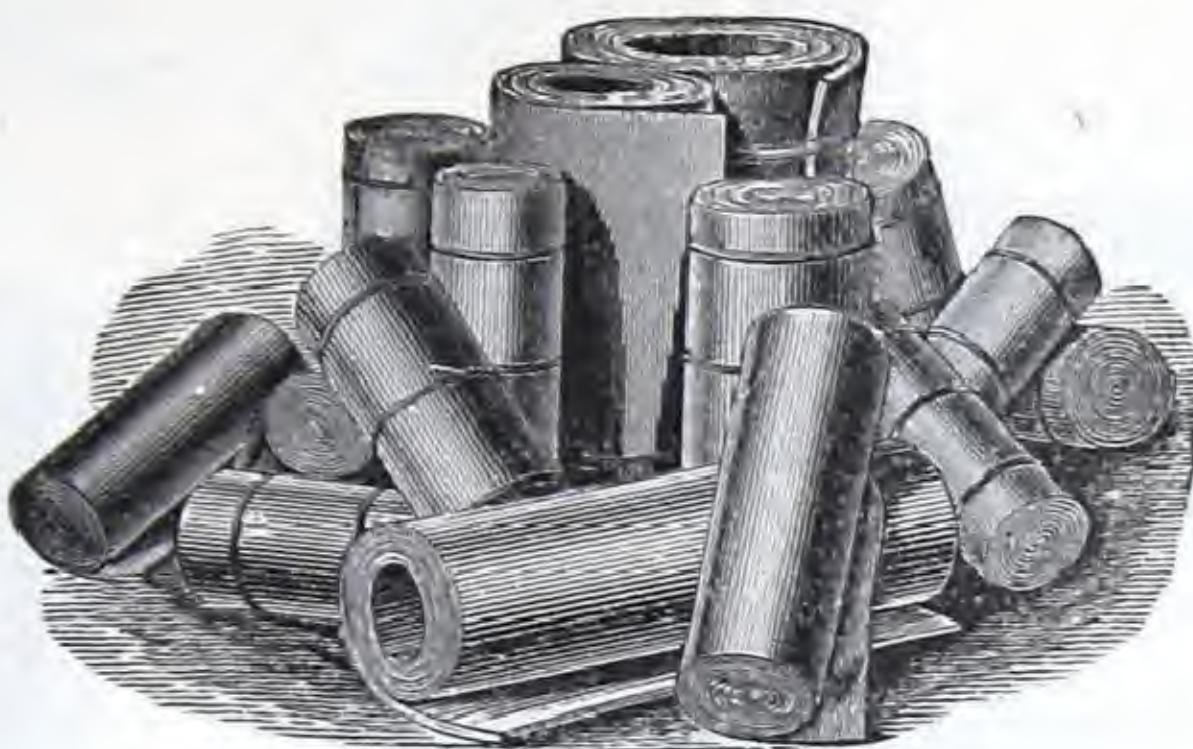


Fig. G-724

Sheet Rubber Packing, with Cloth Insertion

Width of Sheet 36" Thickness $\frac{1}{32}$ ", $\frac{1}{16}$ ", $\frac{3}{32}$ ", $\frac{1}{8}$ ", $\frac{3}{16}$ ", $\frac{1}{4}$ " per pound \$ 0.60

Pure Sheet Rubber, Width 6" Thickness $\frac{1}{8}$ " " " 2.10

" SIRDAR " High Grade Red Sheet Rubber Packing.

Suitable for Air, Steam, Hot or Cold Water

Width of Sheet 36" Thickness $\frac{1}{16}$ ", $\frac{3}{32}$ ", $\frac{1}{8}$ ", $\frac{3}{16}$ ", $\frac{1}{4}$ " per pound \$ 0.75

" DURABLA " Asbestos Sheet Packing, For High Pressure and Super-heated Steam, Gasoline and Gas Engines, etc. Will not burn or blow out. Unaffected by changes in temperature.

Width of Sheet 36" Thickness $\frac{1}{2}$ ", $\frac{1}{16}$ ", $\frac{1}{8}$ " per pound \$ 2.40

NOTE. These thicknesses are equal to double the thickness of Rubber Packing.

SPIRAL PACKING



Fig. G-725

$\frac{1}{4}$ ", $\frac{5}{16}$ ", $\frac{11}{32}$ ", $\frac{1}{2}$ ", $\frac{3}{8}$ ", $\frac{3}{16}$ ", $\frac{1}{8}$ ", $\frac{1}{16}$ "

Per pound \$ 1.60

SELF-VULCANIZING WICK Asbestos twisted Valve Stem Packing



Fig. G-726

$\frac{1}{8}$ ", $\frac{3}{16}$ ", $\frac{1}{4}$ ", $\frac{5}{16}$ ", $\frac{3}{8}$ ", $\frac{1}{2}$ "

Per pound \$ 1.80

Packings (*continued*)

SQUARE FLAX PACKING

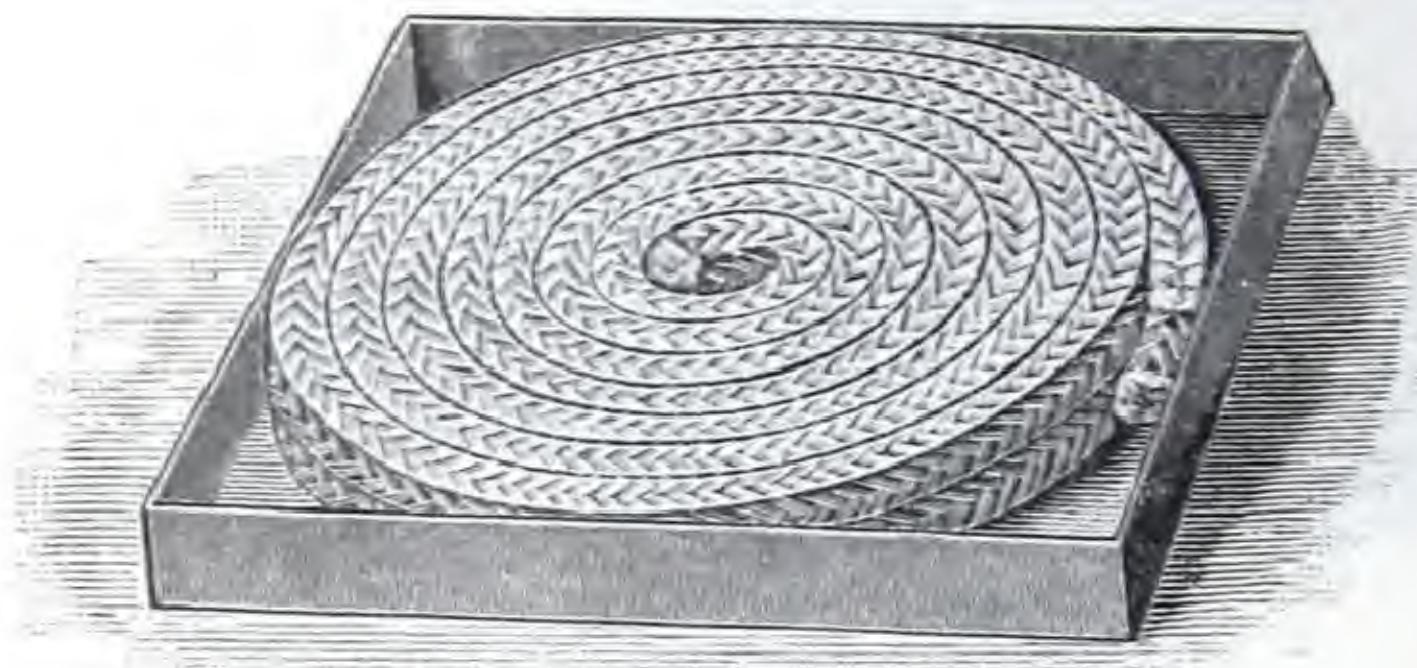


Fig. G-727

Sizes $\frac{1}{4}$ ", $\frac{3}{8}$ ", $\frac{1}{2}$ ", $\frac{5}{8}$ ", $\frac{3}{4}$ " 5 lb. Boxes
Per pound \$ 0.85

COTTON WICK



Fig. G-728

6 Balls to the Pound
Per Pound \$1.30
" ball 0.30

PLUMBERS' OAKUM

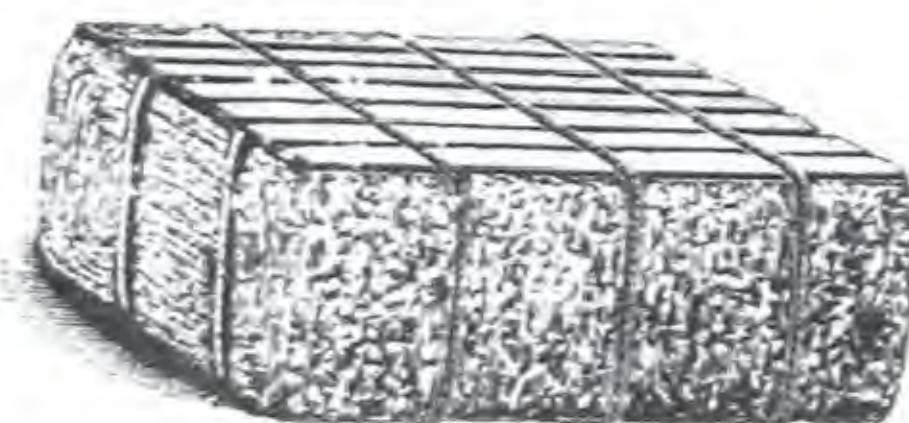


Fig. G-729

In bales of about 50 lbs.
Whole Bales per 100 lbs \$ 17.70
Less than a Bale " 19.60

JUTE PACKING

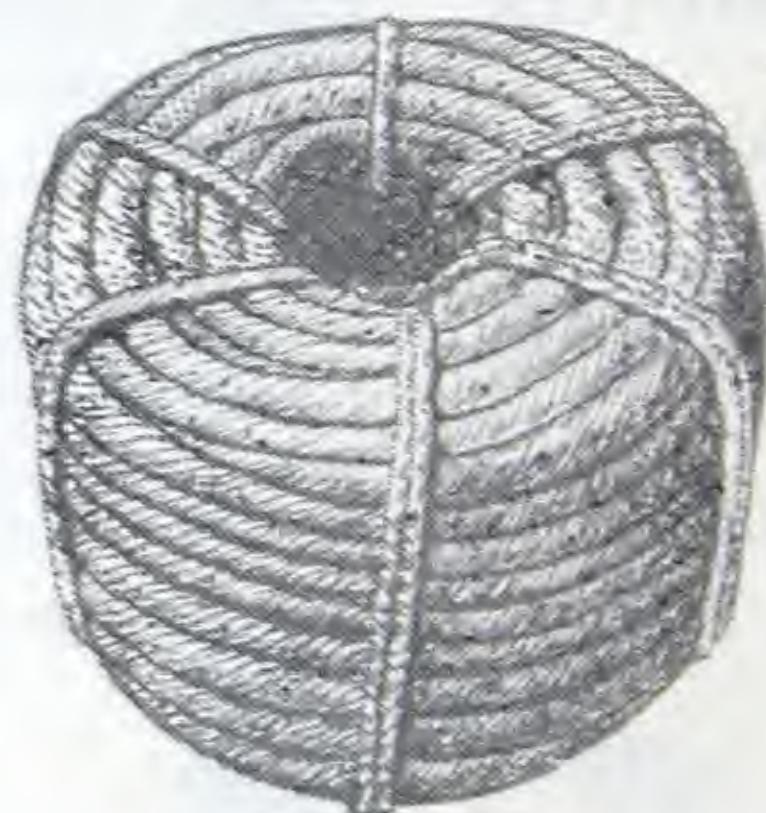


Fig. G-730

Coils of 50 lbs.
Per pound \$ 0.32

HAIR FELT



Fig. G-731

300 Sq. ft. in roll
Width of roll, 6 feet

Fig. G-731 HAIR FELT

Thickness.....	$\frac{1}{4}$ "	$\frac{3}{8}$ "	$\frac{1}{2}$ "
Per 100 Sq. Ft.	\$23.50	29.00	35.50
Less than 100 Sq. Ft.			
Per Square foot	0.25	0.30	0.37

Steamfitters' & Plumbers' Sundries

"ARCO" JOINTITE
Steam, Gas, Oil & Air Pipes



Fig. G-732

In Cans 2½ lb. 5 lb. 10 lb.
Each \$1.50 2.60 5.00

GRAPHITE PIPE
JOINT COMPOUND



Fig. G-733

1 lb. Tins each \$1.15

RED LEAD



Fig. G-734

Per lb. \$ 0.22

GRAPHITE
LUBRICANT



Fig. G-735

1 lb. Tin \$ 1.05
5 lb. Tin 4.70

"SMOOTH-ON"
CEMENT



Fig. G-736

1 lb. Tin \$ 1.40
5 lb. Tin 6.50

ASPHALT ROOFING
CEMENT



Fig. G-737

5 lb. Cans each \$ 0.95
10 lb. Cans " 1.45
80 lb. Drums per lb. . . . 0.12

Fig. G-736 — "SMOOTH-ON" Cement is specially prepared for repairing leaks or breaks in Castings and for making connections in steam or hydraulic work. Withstands fire. Quick hardening. Applied as a paste or putty.

Steamfitters' & Plumbers' Sundries

"NEVER-LEAK"

To repair cracks in Boilers, etc.

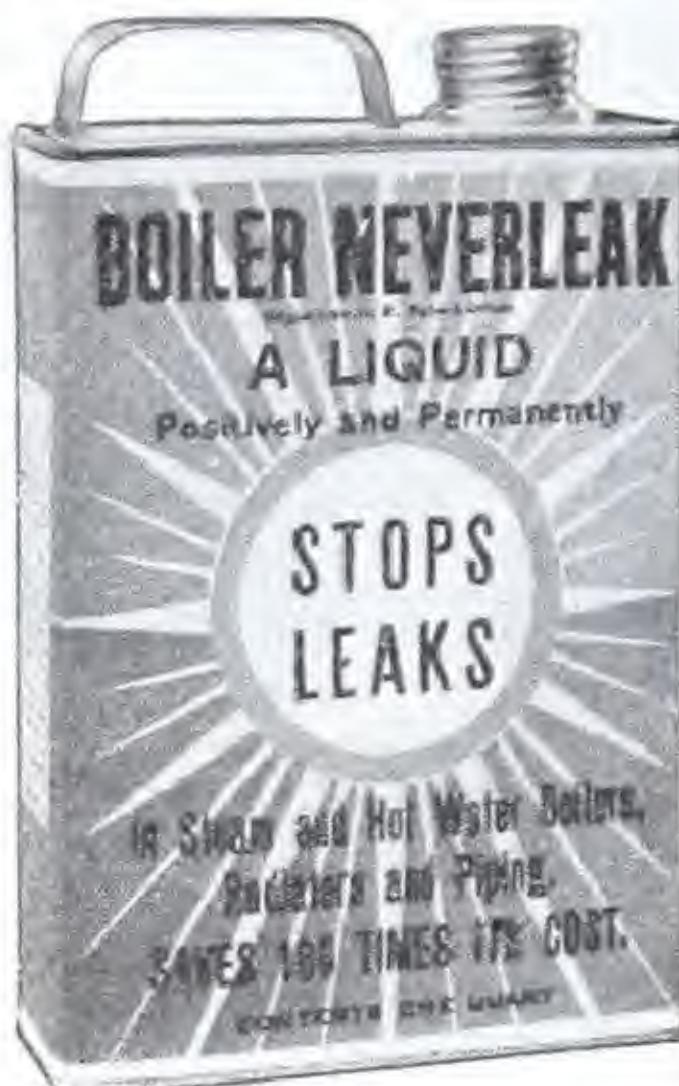


Fig. G-738

For Steam Boilers

One Quart for each 6 sq. ft. of Grate

For Hot Water Boilers

One Quart for each 4 sq. ft. of Grate

Prices

Quart Can,	each \$5.00
Half Gallon Can,	" 8.35

"TASGON" RUST SOLVENT

Dissolves corrosion and rust in any joint



Fig. G-739

For Valves, Bolts of all kinds, Pipe, Automobile parts, etc.

1/2 pint can, each \$1.05

LARD THREADING OIL

Cans,	1 gall.	2 gall.	5 gall.
Each,	\$ 4.20	7.30	16.70

TUTTLE'S "TITE-ON" METAL CEMENT

For Enamel Ware

White, Blue White or Cream White



Fig. G-740

Per Tube, \$ 3.50

THOMAS ROBERTSON & COMPANY, LIMITED

Steamfitters' & Plumbers' Sundries

**ASBESTOS STOVE &
FURNACE CEMENT**



Fig. G-741

5 lb. Cans	each \$0.85
10 lb. " "	1.60

BLACK PUTTY
For Stoves and Boilers



Fig. G-742

5 lb. Cans	each \$ 1.05
10 lb. " "	1.90

STANDARD PUTTY

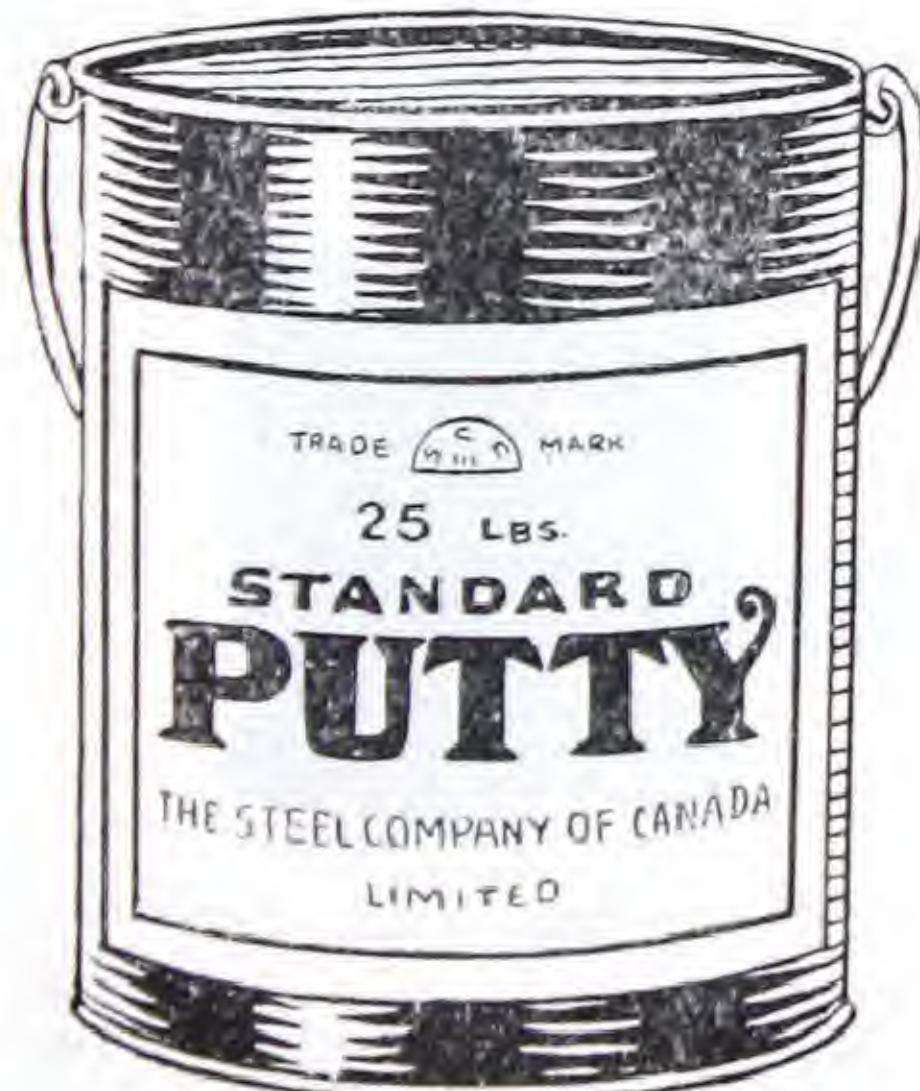


Fig. G-743

Fig. G-743

Standard Putty

12½ lb. Drums	each \$ 1.40
25 lb. " "	2.00

PLUMBERS' CANDLES

1½" Diam.	Per doz. \$ 0.85
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THOMAS ROBERTSON & COMPANY, LIMITED

Plumbers' & Tinsmiths' Sundries

"SOLDERALL"
For Tinning & Soldering All Metals



Fig. G-744

$\frac{1}{2}$ gallon cans	each	\$ 2.50
1 "	"	3.80
5 "	"	15.00

SANITARY CLEANER for ENAMEL
WARE



Fig. G-746

1 Pint Tins	each	\$ 0.95
1 Quart Tins	"	1.30

SOLDERING
PASTE



Fig. G-745

Tins	2 oz.	4 oz.	8 oz.	16 oz.
Each	\$0.30	0.50	0.90	1.80
Per doz.	3.10	4.70	8.80	17.70

SOLVENT FOR
CLEANING DRAINS



Fig. G-747

Per Tin	\$0.80
Case 1 Doz. Tins	8.80
Case 2 Doz. Tins	16.00

Wrenches

"TRIMO" Pipe Wrench



Fig. G-748

Length Open.....inches	6	8	10	12	14	18	24	36	48
Takes Pipe....."	$\frac{1}{8}-\frac{1}{2}$	$\frac{1}{8}-\frac{3}{4}$	$\frac{1}{8}-1$	$\frac{1}{8}-1\frac{1}{4}$	$\frac{1}{8}-1\frac{1}{2}$	$\frac{1}{8}-2$	$\frac{1}{8}-2\frac{1}{2}$	$\frac{1}{8}-3\frac{1}{2}$	$1-5$
Complete Wrench.....	\$1.90	2.20	2.85	3.35	3.85	5.50	8.50	15.00	25.00

"STILLSON" Pipe Wrench



Fig. G-749

Length Open.....inches	6	8	10	14	18	24	36	48
Takes Pipe....."	$\frac{1}{8}-\frac{1}{2}$	$\frac{1}{8}-\frac{3}{4}$	$\frac{1}{8}-1$	$\frac{1}{8}-1\frac{1}{2}$	$\frac{1}{8}-2$	$\frac{1}{8}-2\frac{1}{2}$	$\frac{1}{8}-3\frac{1}{2}$	$1-5$
Complete Wrench.....	\$1.90	2.20	2.85	3.85	5.50	8.50	15.00	25.00

"WALCO" Pipe Wrench



Fig. G-750

Length Open.....inches	6	8	10	14	18	24	36	48
Takes Pipe....."	$\frac{1}{8}-\frac{1}{2}$	$\frac{1}{8}-\frac{3}{4}$	$\frac{1}{8}-1$	$\frac{1}{8}-1\frac{1}{2}$	$\frac{1}{8}-2$	$\frac{1}{8}-2\frac{1}{2}$	$\frac{1}{8}-4$	$1-6$
Complete Wrench.....	\$1.90	2.20	2.85	3.85	5.50	8.50	15.00	25.00

Chain Tongs and Pipe Cutters

"VULCAN SUPERIOR" Drop-Forged Chain Tongs



Fig. G-751

Size Number	0	1	2	3	3½	4	5
Takes Pipe inches	½-1	1-1½	1-2½	3-4	1-6	1½-8	2-12
Length over all "	13½	20	27	37	44½	50½	64½
Complete Wrench	\$5.00	7.00	10.00	14.00	18.00	22.00	36.00

"BARNES" Three Wheel Type Pipe Cutters

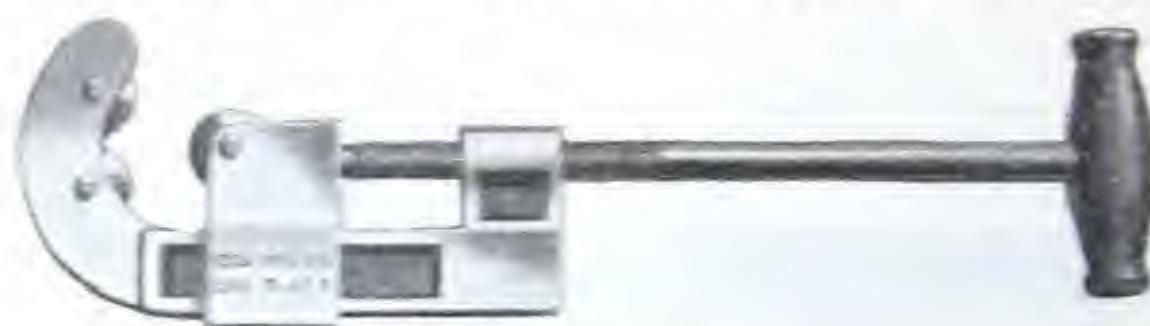


Fig. G-752

Size Number	1	2	3	4	5	6	6½	7
To cut Pipe inches	½-1	½-2	1½-3	2½-4	4-6	6-8	8-10	9-12
Price complete	\$4.50	6.00	10.00	20.00	30.00	40.00	45.00	50.00

NOTE. This type of Cutter is specially adapted for work where it is impossible to revolve the Cutter entirely around the Pipe.

"SAUNDERS" One Wheel and Roller Type Pipe Cutters

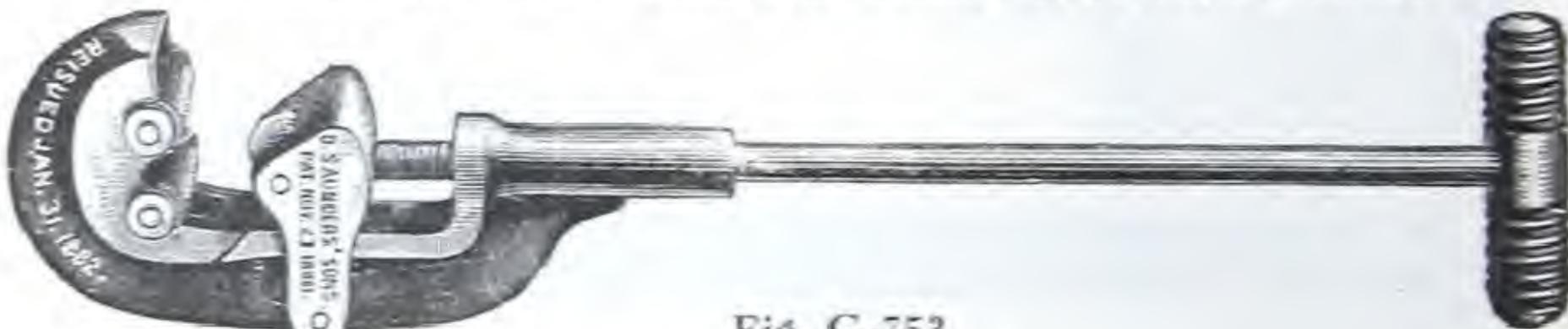


Fig. G-753

Size Number	1	2	3	4	5
To cut Pipe inches	½-1	1-2	2-3	2½-4	4-6
Price complete	\$ 3.00	4.50	11.00	18.00	28.00

NOTE. The Roller Style of Pipe Cutter is suitable for work where the Cutter can be revolved entirely around the Pipe.

Pipe Vises

Fig. G-754.

Size No.	7000	700	70	71	72	73
Takes Pipe, inches	$\frac{1}{8}-1\frac{1}{4}$	$\frac{1}{8}-1\frac{1}{2}$	$\frac{1}{8}-2$	$\frac{1}{8}-2\frac{1}{2}$	$\frac{1}{8}-3\frac{1}{2}$	$\frac{1}{8}-4\frac{1}{2}$
Complete,	\$5.00	7.20	8.50	10.00	15.00	22.00

With Roller Pipe-Jaw.

Size No.	R-2	R-3	R-4
Takes Pipe, inches	$\frac{1}{8}-2\frac{1}{2}$	$\frac{1}{4}-3$	$\frac{3}{4}-4$
Complete,	\$10.00	15.00	22.00

“ JARECKI ” PIPE VISE
With Hinged Beam
(holding the upper Jaw)

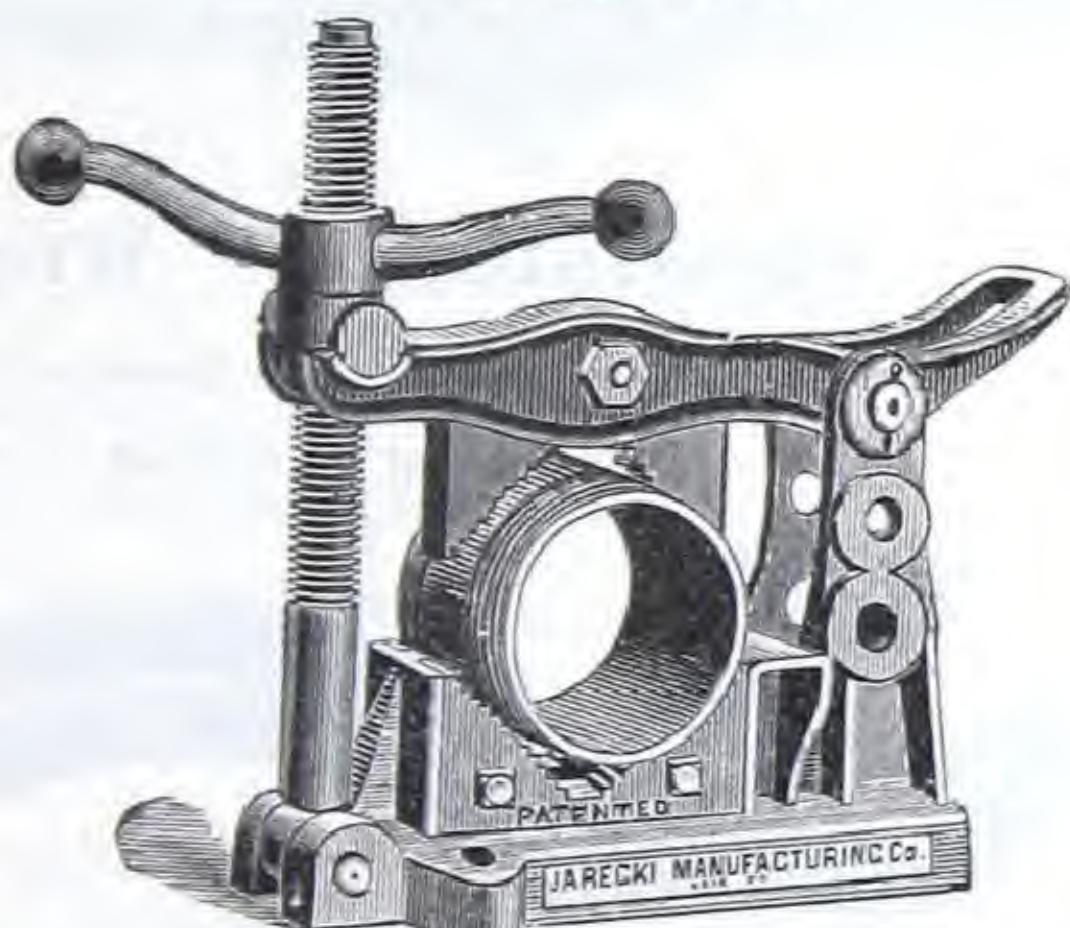


Fig. G-755

Size No.	1	2	3	4
Takes Pipe, inches	$\frac{1}{8}-2$	$\frac{1}{8}-4$	$1\frac{1}{2}-6$	$6-12$
Complete,	\$24.00	32.00	48.00	120.00

Fig. G-756—“VULCAN”

Size No.	1	2	3	4
Takes Pipe, inches	$\frac{1}{8}-2$	$\frac{1}{4}-4$	$\frac{1}{2}-6$	$\frac{1}{2}-8$
Complete,	\$7.00	15.00	27.00	36.00

SELF-LOCKING

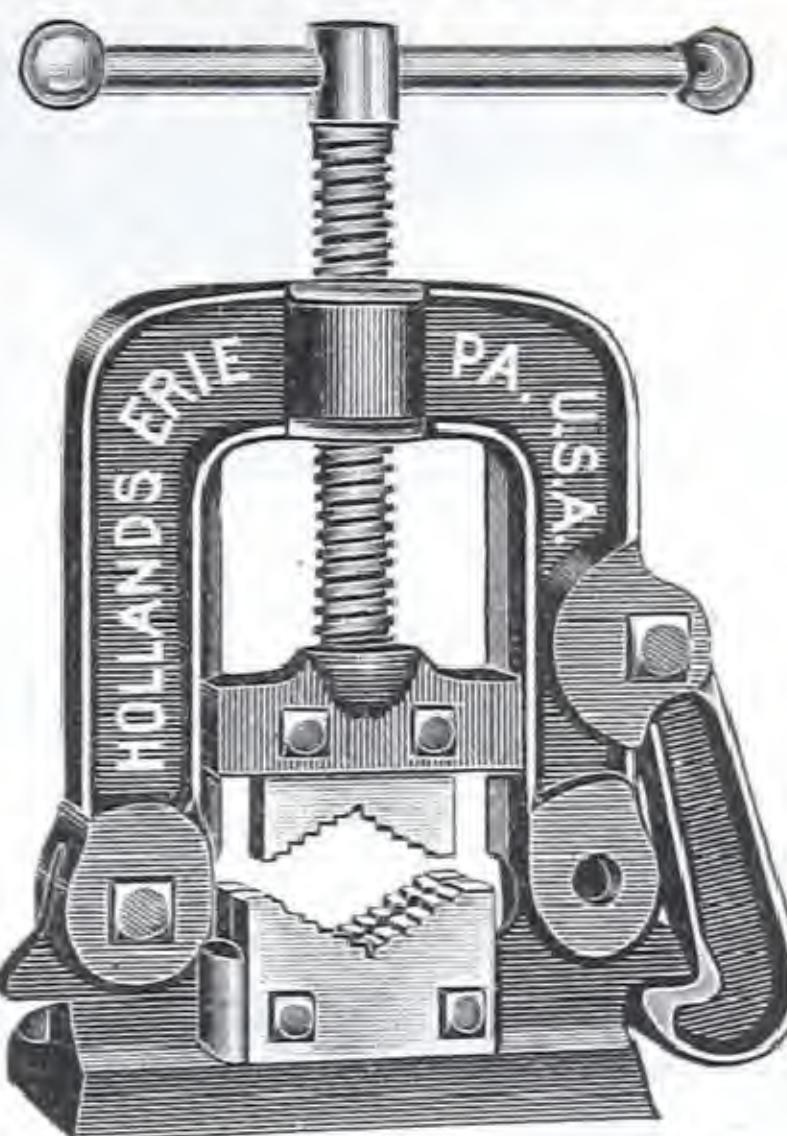


Fig. G-754
Also made with Roller Pipe-Jaw

“ VULCAN ”
Chain Pipe Vise

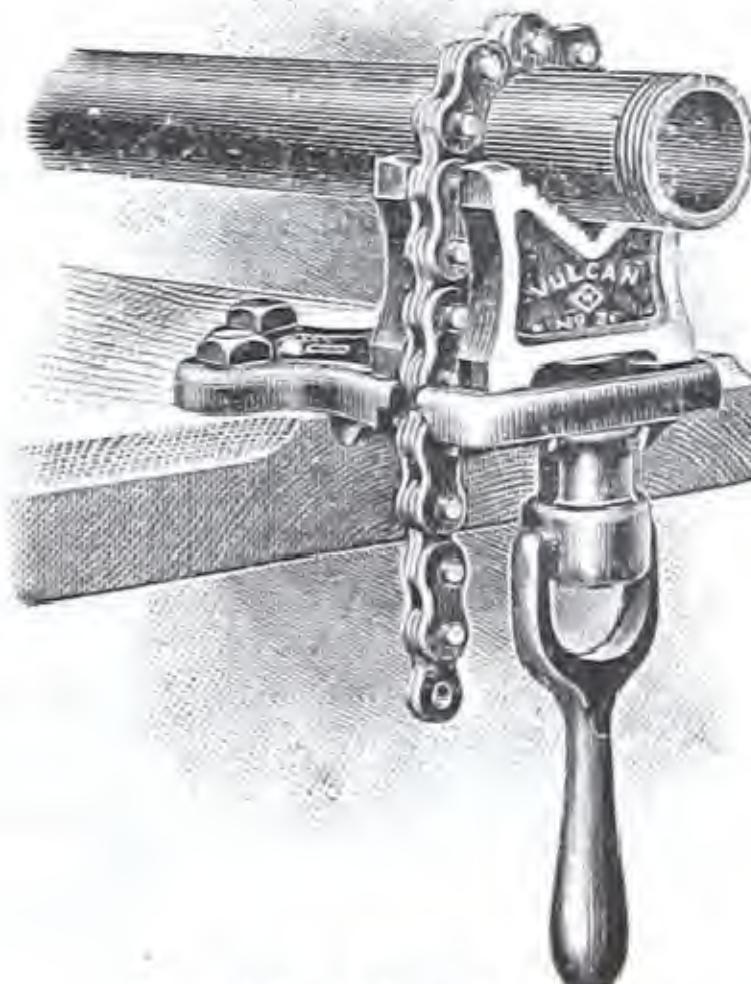


Fig. G-756

Bench Vises

"KEYSTONE" VISE

Stationary or Swivel Base

Size No.	B	C	D	F	G
Jaw, inches	2	2½	3	3½	4
Opens, "	2½	3	3½	4	6
Swivel Base	\$8.00	10.00	12.00	16.00	21.60
Stationary Base	\$6.00	8.00	10.00	12.80	17.60

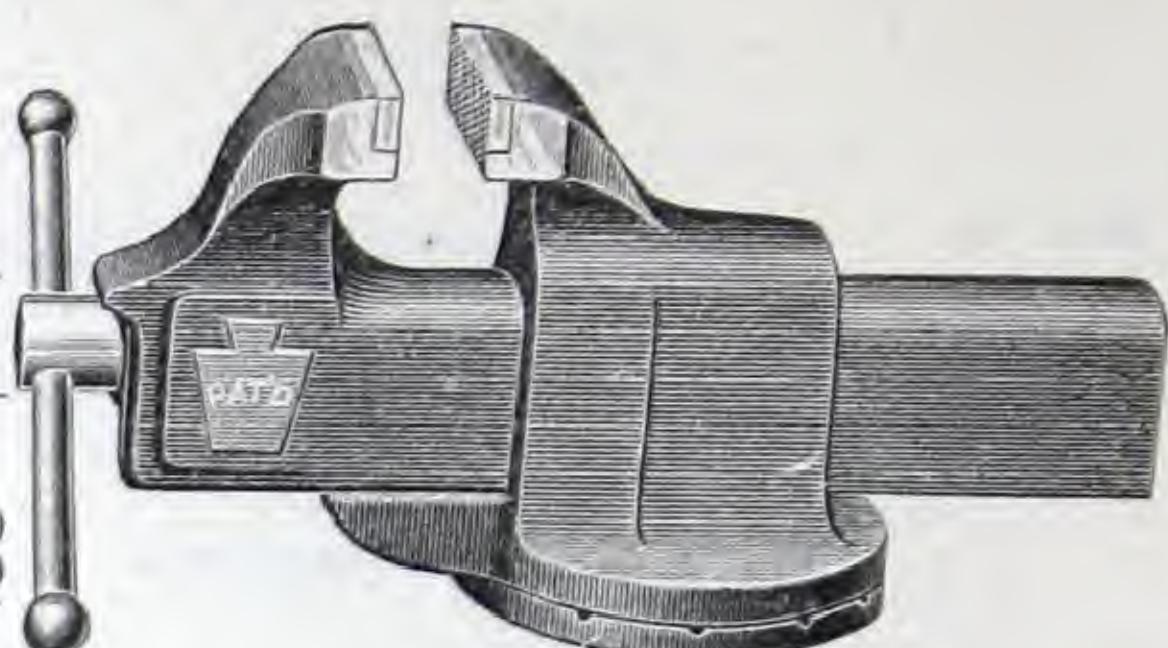


Fig. G-757

"Mueller" Pipe End Reamers



Fig. G-758

Ratchet Pattern, for $\frac{3}{4}$ " to 3" pipe

Each.... \$11.00

Adjustable "S" Wrench

Handle Malleable Iron,
Jaw Forged Tool Steel



Fig. G-759—(For Nuts)

Straight Hand Shears

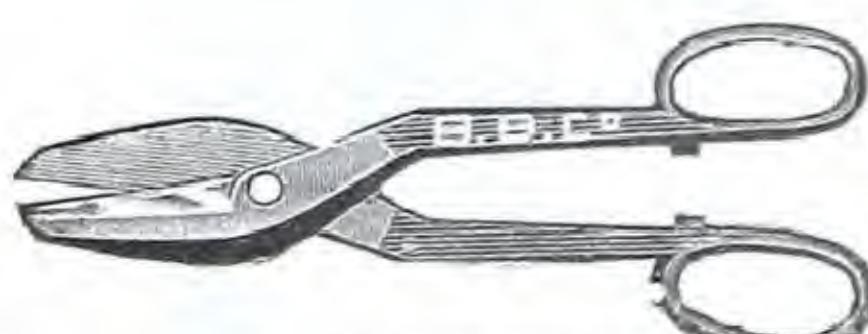


Fig. G-760

Size No.	6½	7	8	9	10	12
Cut, inches	4½	3½	3½	3	2½	2
For Gauge No.	22	24	24	26	26	28
For R.H. Man	\$8.80	7.40	5.80	5.30	4.80	3.00
" L.H. Man ....	..	7.40	6.70	..	..	..

THOMAS ROBERTSON & COMPANY, LIMITED

Stocks and Dies

These Stocks are standard and take the Dies in corresponding sizes of all makers.



Fig. G-761

Size Number	0	1	1 1/2	2
Threads Pipe..... inches	$\frac{1}{8} - \frac{1}{2}$	$\frac{1}{4} - 1$	$\frac{3}{4} - 1\frac{1}{4}$	$1\frac{1}{4} - 2$
Size Dies and Thickness..... "	$2 \times \frac{1}{2}$	$2\frac{1}{2} \times \frac{3}{4}$	$3 \times \frac{3}{4}$	$4 \times \frac{7}{8}$
Stock complete with Dies, (Rt. or Lt.) each	\$8.00	10.50	9.50	14.50
Stock only..... "	3.00	3.50	4.00	8.50
Dies only..... "	1.40	1.60	2.00	2.50



"ARMSTRONG" Pattern

ADJUSTABLE

Fig. G-762

Size Number	2	3
Threads Pipe..... inches	$\frac{1}{4} - 1$	$1 - 2$
Complete with Dies, Right or Left..... each	\$12.00	21.00
Stock only..... "	4.00	7.00
Extra Dies, Right or Left..... "	2.00	4.50

STANDARD RATCHET STOCK and DIES

The Ratchet principle is the easiest method of applying hand power in pipe threading.

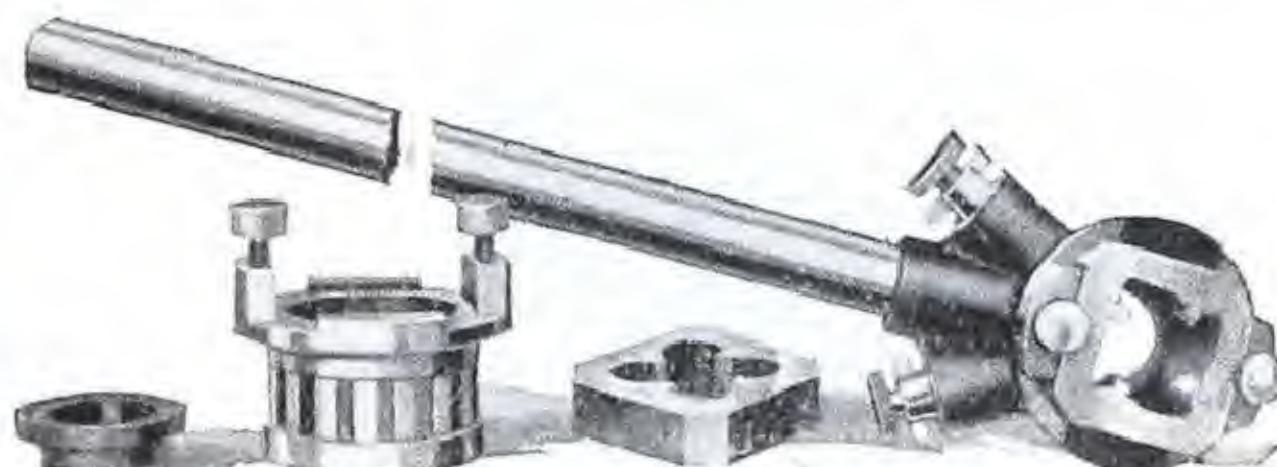


Fig. G-763

Size Number	801	812	824	836	846
Threads Pipe..... inches	$\frac{1}{8} - \frac{3}{4}$	$\frac{1}{4} - 1$	$\frac{1}{2} - 1\frac{1}{4}$	$1 - 1\frac{1}{2}$	$1 - 2$
Size Die Block..... "	$1\frac{1}{8} \times 1\frac{1}{8}$	2x2	$2\frac{1}{2} \times 2\frac{1}{2}$	3x3	4x4
Set Complete.....	\$13.00	13.50	12.50	11.50	15.25
Extra Ratchets.....	4.50	4.50	4.75	4.75	5.00
" Dies.....	1.40	1.40	1.60	2.00	2.50
" Guides.....	0.30	0.30	0.40	0.60	0.75

Gasoline Torches & Firepots

TORCH No. 22-A



Fig. G-772

Capacity 1 quart.
Height 12 in.

TORCH No. 158



Fig. G-773

Capacity 1 quart. \$ 5.30

CHEM. FIREPOT No. 22-A
With Powerful Blast Flame



Fig. G-774
Capacity 1 gallon. \$21.40

COMBINATION FIRE POT
AND TORCH, No. 91



Fig. G-775
Capacity 1 gallon. \$ 28.20

“Oliva” Expansion Roof Drain

(Patented)

Ensures double straining and makes a perfect water-tight connection.

Furnished complete with an extra heavy cast iron Roof Cowl, a special copper Wire Strainer, a 16 oz. copper Flashing Flange, a 30 oz. copper Expansion Sleeve, and a copper Expansion Joint with Graphite Gasket.

Size	4"	5"	6"
Each	\$16.00	18.75	22.25

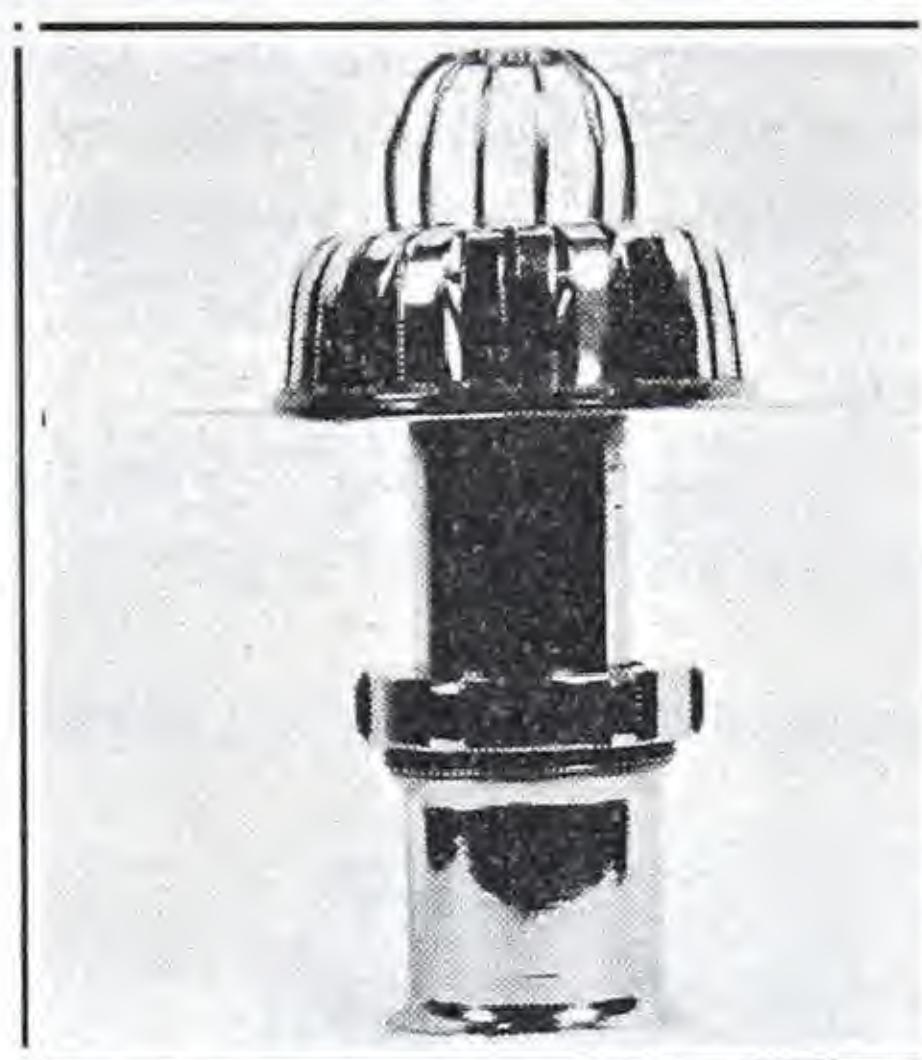


Fig G-776

“Oliva” Roof Connection for Vent Pipe

With Expansion Joint

(Patented)

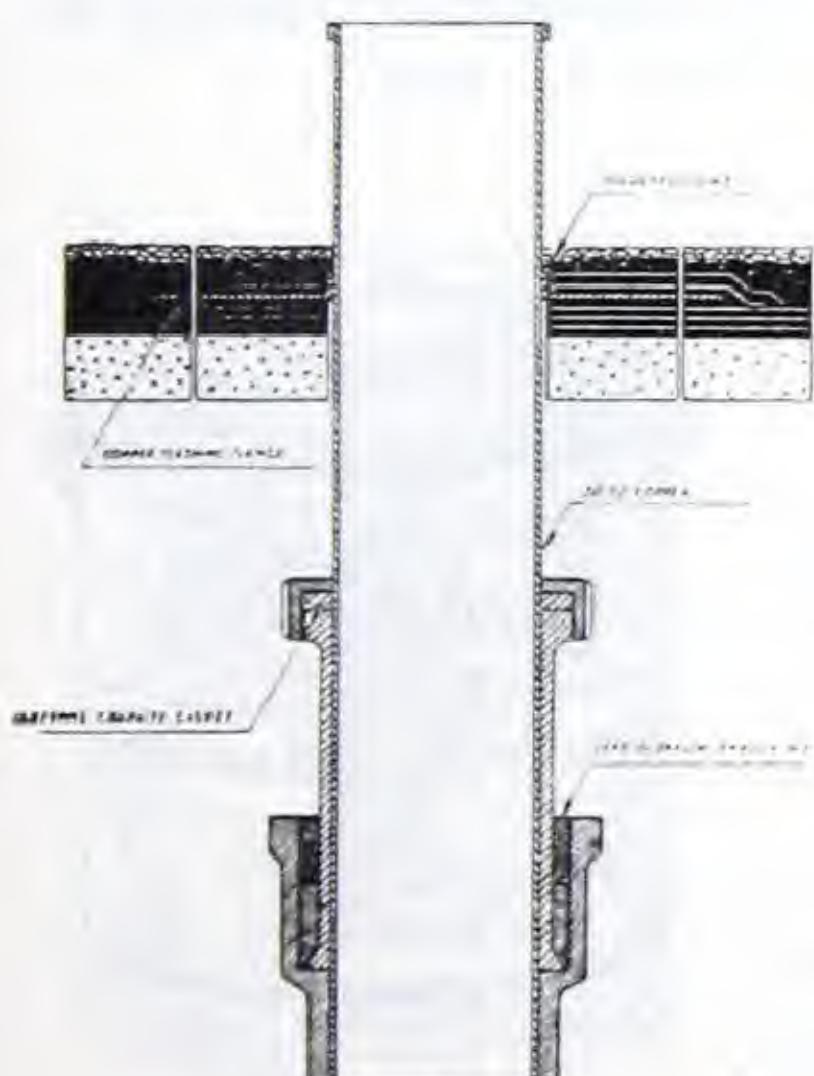


Fig. G-777

This Vent Connection can be installed on any kind of roof. It is easily and rapidly fixed in position, and makes a perfect water-tight connection.

When ordered for inclined roofs we require to know the angle of roof.

Furnished complete with a 16 oz. copper Flashing Flange, a 30 oz. copper Expansion Sleeve, and a copper Expansion Joint with Graphite Gasket.

Size	4"	5"	6"
Each	\$13.90	16.15	19.25

“Elastica” High Grade Prepared Paints

“Elastica” House Paint is a product of the highest quality giving unsurpassed covering powers together with great durability.

It will cover from 400 to 450 square feet per gallon, two coats, on any surface in fit condition to receive paint.

It is made in Black and White and in a variety of 25 desirable shades.

Supplied in Barrels and in containers down to $\frac{1}{2}$ pint.



Fig. G-778



Fig. G-779

“Flattine” Interior Wall Finish is easy to apply and produces a soft velvety finish. It is sanitary and washable and economical.

Suitable for halls, stairways, bedrooms, bathrooms, or kitchens, or any plastered wall or ceiling, burlap wallboard, wood or metal surface.

It is made in 18 shades and supplied in Barrels and in containers from gallons down to 1 pint.



Fig. G-780

Color Cards and Prices on request. Full directions on each container.

High Grade Quick Drying Enamels



Fig. G-781

"Lacqueret" Four Hour Enamel is unexcelled for the refinishing of furniture or interior decoration. It will dry dust free in one hour and hard in 4 hours, with a beautiful lustrous enamel finish that is durable and waterproof. It has no offensive odor. It leaves no brush marks.

It is made in Black and White and in 16 of the newest shades, and supplied in containers from one gallon to $\frac{1}{4}$ pint.

"Rogers' One Hour Enamel" is a revolutionary new product. It dries in One Hour. It flows on easily, it has no objectionable odor, and it can be thinned with turpentine.

Suitable for furniture, bric-a-brac, toys, etc.

It is made in a large variety of pleasing colors.

Supplied in containers from one gallon to $\frac{1}{4}$ pint.



Fig. G-782



Fig. G-783

"Kwickwork" Auto Enamels are made of the highest grade exterior varnish combined with permanent colors. Ready for use and easy to apply. Cannot be surpassed for toughness or durability or finished appearance. For Automobiles, Buggies, Baby Carriages, or any exterior surface requiring a hard surface and a high gloss. Made in 10 attractive shades, and supplied in containers from one gallon to $\frac{1}{2}$ pint.

Color Cards and Prices on request. Full directions on each container.

“Satinette” Enamel & “Elastica” Floor Enamels

“Satinette” Highest Grade Enamel is usually preferred in high gloss finish but it can also be supplied in Egg Shell finish. It is suitable for either interior or exterior use and can be used on wood, metal or plaster surface. It flows freely under the brush and dries with a perfect porcelain finish. Made in white and colors.

Supplied in containers from 1 gallon to $\frac{1}{4}$ pint.



Fig. G-785



Fig. G-784

“Elastica” Quick Drying Floor Enamel is easy to apply and dries hard over night. It dries with a high gloss and with the hardness and elasticity necessary to withstand the wear and tear to which floor enamels are subjected.

One gallon will cover 350 to 400 square feet, two coats. Made in 11 colors. Supplied in barrels and in containers down to $\frac{1}{2}$ pint.

“Elastica” Porch Floor Enamel is specially prepared for use on outside porches and steps. It is made both tough and elastic to meet the usual severe conditions of weather and usage. One quart is sufficient for an average porch floor and steps and will add years of service to them. Made in four colors.

Supplied in barrels and in containers down to $\frac{1}{2}$ pint.

Color Cards and Prices on request.
Full directions on each container.



Fig. G-786

“Elastica”

Floor Varnish



Fig. G-787

Supplied in containers from 5 gallons down to $\frac{1}{2}$ pint.

“Metal-Cote” Paint



Fig. G-789

Supplied in barrels, and in containers from 5 gallons to 1 quart.

Color Cards and Prices on request. Full directions on each container.

“Elastica” Floor Varnish has no superior for hardness and toughness and finish.

It never becomes brittle and therefore will not mar, or scratch, or spot.

“Lacqueret” Varnish Stain gives a beautiful and durable finish to new or old floors, furniture, and all woodwork.

“Lacqueret”

Varnish Stain



Fig. G-788

Made in Light, Dark, & Golden Oak, Cherry, Mahogany & Walnut.

Supplied in containers from one gallon down to $\frac{1}{4}$ pint.

Rogers' Liquid Polish

“Metal-Cote” Paint is prepared specially for Metal surfaces, such as Iron Bridges, Structural Steel, Metal Roofs, Water Tanks, Smokestacks, etc. Made in 10 shades and in Black.

Rogers' Liquid Polish for Automobiles, etc., cleans and polishes at the same time and gives wonderful results.



Fig. G-790

Supplied in 8 oz. & 16 oz. bottles for Automobiles.

**Paints, Varnishes and Enamels
Miscellaneous Products**

“Elastica” Gold Paint

“Elastica” Aluminum Paint

“Elastica” Gold Enamel

“I.V.” Bronzing Liquid

General Purposes Varnish

Supplied in Barrels and in containers down to $\frac{1}{2}$ pint

Carriage Varnishes

Automobile Varnishes

“Kleartone” Oil Stain & Acid Stain

“Elastica” Dry Colors

“Elastica” Colors Ground in Oil

Freight Car Paint

Railroad Car Floor Paint

“Elastica” Prepared Floor Wax

“Deco-Tint” Wall Finish

(to mix with Cold Water)

Pure White Lead

Zinc White

Turpentine

Linseed Oil, Raw & Boiled Oil, & Pale Double Boiled
in Barrels or in smaller quantities

Shellac in Bulk (Orange & White)

Sand Paper

Painters’ Brushes of every description.

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